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# China Report

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6 August 1982

# CHINA REPORT

## AGRICULTURE

No. 219

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I. GENERAL INFORMATION

COMMENTATOR CALLS FOR QUALITY CENSUS TAKING

Beijing ZHONGGUO NONGMIN BAO in Chinese 10 Jun 82 p 1

[Article by commentator: "Assure Quality in Rural Census"]

[Text] Currently preparatory work for a census in China's farflung rural village is feverishly under way. An overwhelming majority of areas have run census pilot projects to gain valuable experiences; the work of commune training census personnel has been substantially completed in most parts of the country; propaganda work about the census is being pervasively launched with many areas having made lantern slides, trained propaganda personnel, and conducted a census of middle school and primary school students. Overall the work has progressed smoothly and achievements have been very great.

However, we should also clearheadedly realize the considerable difficulties in conducting a rural census. This is because the cultural level of China's rural population is lower than that of cities, so completing the recording of as many as 19 census items must inevitably mean difficulties will be somewhat greater and that questions must inevitably be somewhat more numerous. In addition, the rural household registration system has not been sufficiently well perfected, so the foundation for census work is relatively poor. In rural communes and brigades, and particularly in the farflung border regions, people's abodes are very scattered and the migratory population is fairly great, making for inconveniences and increasing difficulties in taking the census.

We recognize the difficulties and want to overcome the difficulties to do a good job. Ours is a country of 1 billion population of whom 800 million are peasants. Quality of the rural census will decide the quality of the census for the country as a whole and will bear on whether this national census is a success or a failure. This has wide ramifications, so we must be determined to do a good job of it.

Most important in doing the rural census well is to do conscientious and extremely meticulous work. There can be not the slightest bit of perfunctory manner or carelessness. Commune and brigade leadership comrades must diligently and exceedingly meticulously organize. They cannot push this matter off on accountants or sit in an office, relying on "seems natural" to fill out forms and consider the matter finished. Instead, they must carry it out

household by household and person by person. The broad masses of census takers must brave all hardships, not fear inconvenience, and fill out every single census registration form in scrupulous detail; they must positively assure no duplications, no omissions, and no errors. The broad masses of peasants should also make a conscious contribution to the census work, conscientiously and responsibly answering factually each individual census item.

China's peasants possess very high political consciousness. If only we do wide and pervasive propaganda work to mobilize them, explaining the reasons clearly to everybody, the broad masses of peasants will certainly actively cooperate and do a good job, and the rural census can certainly be successfully completed with high quality.

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RULES GOVERNING COMMUNE DEALINGS IN AGRICULTURAL PRODUCTS EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5,  
5 May 82 p 41

[Article by People's Commune Enterprises Administration, Ministry of Agriculture: "May Commune and Brigade Enterprises Engage in Business and Processing Industries?"]

[Editor's note: Recently some letters received from readers have focused on two problems about the scope of dealings by commune and brigade enterprises, People's Commune Enterprises Administration of the Ministry of Agriculture replies to which are printed below.]

[Text] Question: May the supply and marketing organizations of people's commune enterprises purchase and market commodities?

Answer: Commune and brigade enterprises are an integrated economy under rural people's commune collective ownership and include agriculture, industry, transportation, construction, and commerce. In 1980, their output value amounted to 12 percent of the national gross output value from industry and agriculture, making them a major integral part of the national economy. In order to serve commune member production and livelihood, in accordance with the spirit of the CCP Central Committee and State Council notice titled, "Need for Finding Multiple Ways of Opening and Developing Flow Channels," they have put into effect commodity flow channels of "multiple economic ingredients, diverse forms of operations, numerous channels, and few links." In rural villages, apart from mainstream supply and marketing cooperative mainstream channels, in recent years all jurisdictions have test run and developed, in a planned way, commune and brigade collective businesses such as trade warehouses, joint supply and marketing management departments, and integrated agricultural, industrial, and commercial enterprises, etc. to form another supplemental flow channel. The appearance of this flow channel has been a convenience for the masses, has enlivened the rural economy, and has advanced development of commodity production. Consequently, the "Summary of the Minutes of the National Conference on Rural Work," which was approved and forwarded by the CCP Central Committee in January 1982, both affirmed and required that commercial departments at all levels actively support and guide commune and brigade development of sales promotion and procurement activities

as a major task for themselves. All levels of planning, public finance, material, and transportation departments should accommodate commune and brigade collective businesses, commune and brigade enterprises, and integrated agricultural, industrial, and commercial enterprises in setting up accounts. After rural businesses have put multiple channels into effect, local people's governments should strengthen leadership, prescribe the scope of their activities, and do a good job in coordination, channeling guidance, and management." In accordance with a series of Central Committee and State Council regulations, the scope of one category of commune and brigade commercial operations is procurement of the various raw materials and supplementary materials needed by commune and brigade industries. These include the following: agricultural products dealings outside state procurement base figures that communes and brigades may handle as they see fit; second is raw materials newly developed by commune and brigade enterprises; third is exchange and cooperation internally on raw and processed materials that commune and brigade enterprises produce; fourth is procurement of agricultural products remaining following fulfillment of state distribution and procurement quotas; and fifth is receipt of materials for processing from foreign traders and from outside the country. A second category is marketing operations including the following: one is marketing of goods produced by commune and brigade enterprises; second is organization for production of goods for use in the export trade; third is dealings in state owned industrial and commercial wholesale commodities; fourth is serving as a purchasing and sales agent on commission from state industries or businesses; fifth is helping communes, brigades and commune members sell agricultural products not purchased by the state. Development of all these operations must be done under guidance of state plan and with respect for national laws. There positively can be no disregard of state plan, jacking up of prices, or pre-emptive buying of commodities.

Question: Are commune and brigade enterprises permitted to deal in the processing of second and third category farm products?

Answer: Permitting communes and brigades to process farm products themselves has consistently been a policy of the state. As early as 1951 in "Decisions on Mutual Assistance and Cooperation in Agricultural Production," the CCP Central Committee proposed development by agricultural cooperatives of agricultural product processing industries. In September 1956 the "Directive on Strengthening of Production Leadership and Building the Organization of Agricultural Production Cooperatives" issued by the CCP Central Committee and the State Council pointed out the following: Agricultural sideline product processing industries should not be overly concentrated in cities. Over-concentration makes it impossible to satisfy peasant needs for livestock feeds and fertilizers and is, at the same time, a reason for the decline of rural sideline occupation production. Consequently, processing industries for the grinding of rice, the ginning of cotton, and the pressing of oil should not be overly concentrated in cities. Except for the supply of raw materials needed by existing processing plants, all other agricultural products should, insofar as possible, be processed by local villages and towns or by agricultural cooperatives." The "Decisions on Various Problems in Hastening Development of Agriculture" of the 11th Party Central Committee in 1979 also pointed

out that "in accordance with the principle of economic cooperation, any farm products that lend themselves to rural processing should gradually come to be processed by commune and brigade enterprises." State Council Document No 170 issued in 1979 ruled a need to "make efforts to develop agricultural commodity processing industries." State Council Document No 77 of 1981 further stipulated that "henceforth whenever there is a surplus of processing capacity in state enterprises, communes and brigades are not to run any more similar enterprises or expand processing capacity. For all processing using agricultural sideline products as raw materials that can be done in rural villages, the state will not further build new plants in cities or expand processing capacity, but should act on the principle of economic cooperation to support development of collectively owned processing industries." The most recently published "Summary of the Minutes of the National Conference on Rural Work" approved and sent forward by the Central Committee also clearly pointed out that "provided planned state quotas are assured fulfillment, there should be active development of on-site processing concentration, and overall use of agricultural sideline products." "Except for agricultural product processing industries that rural communes and brigades want to continue to develop, either commercial units may themselves process purchased farm products, process them jointly with communes and brigades, or commission commune members to process them in their homes." In order to correctly handle concurrent concern for the welfare of the state and collectives, the "Minutes" noted that "the agricultural economy is a major integral part of the national economy, with the planned economy being paramount and market regulation being ancillary. For grain and edible oils, a policy of centralized procurement and centralized marketing should continue to be followed. For assigned procurement of second category agricultural products, equitable base figures should be set and maintained without change for several years. In the case of goods for which base figures cannot be readily set, equitable procurement and retention proportions should also be set. Portions not included in base figures may also be purchased by the state, or the state may purchase a proportional portion of some. In some cases all of them may be handled at the discretion of communes, brigades, and the peasants "for processing and marketing." With regard to commune and brigade enterprise dealings in second and third category agricultural commodities, State Council Document No 3 of 1981, "Directive on Strengthening of Marketing Management, and Cracking Down on Profiteering, Speculation, and Smuggling" clearly stated that "rural commune and brigade collectives, may traffic in goods from their own commune and brigade or from nearby communes and brigades that are surplus to fulfillment of state procurement quotas and the carrying out of negotiated procurement contracts, or are category 2 and 3 agricultural sideline products not purchased by the state. They are not allowed to traffic in category 1 agricultural sideline products."

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COMMENTATOR STRESSES DISTRIBUTION OF SUMMER EARNINGS

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 1982 pp 28, 42

[Article by commentator: "Give Attention to Distribution of Summer Earnings To Promote Production for the Year as a Whole"]

[Text] The job of distributing summer earnings has already begun in rural communes and brigades. Doing a good job of summer earnings distributions this year is a formidable responsibility of major significance.

Summer earnings distributions this year differ from previously, and this situation should be clearly realized. First of all, as a result of the practice of different forms of production responsibility systems, diverse ways of figuring compensation and manifold accounting methods have come into being. Contracts contain many different provisions, and rewards and penalties are of numerous kinds for a new situation. Assiduous honoring of all forms of agreements is a major task in this year's summer earnings distribution work; agreements are to be treated seriously and doing things perfunctorily is to be strictly guarded against. For example, production teams practicing production responsibility systems of specialized contracting, linking output to teams, individual households or individual workers must diligently act as agreements require, strengthen organizational leadership work and, in the course of harvesting and threshing, should guard against mix-ups at the threshing ground, mixing up production from different sources, mixing up accounts, or mixing up workers. The masses say, "accounts should be kept meticulously in accordance with agreements"; whatever agreements were stipulated at the outset should be lived up to with no saying one thing at the beginning of the year only to change it in the summer. This is a matter that bears on the credibility of responsibility systems and involves the personal interests of a myriad of commune member households that must be handled well so the masses will be satisfied. Communes and brigades practicing the fixing of output quotas on a household basis and peasant household assumption of full responsibility for task completion, and particularly those practicing the assumption of full responsibility by individual households, should inspect how well contracts are being fulfilled in distribution of summer earnings. They should take firmly in hand fulfillment of state purchase quotas, and they should clearly explain to everyone how withholdings are to be used. The masses speak well when they say, "Once accounts are closely figured, sharing

is done as it should be; and when intended uses are clearly explained, withholdings are made as they should be." Commune members must be taught that when a bumper harvest has been reaped, the collective and the state are not to be forgotten, and that concurrent concern for the welfare of the state, the collective, and individuals should be regarded as a duty that each household of contracting commune members must carry out with no thinking of only one party or of only two parties, but rather the need for concurrent concern for the three.

In making summer earnings distributions, fiscal reorganization work should also be inspected to determine whether collective property that should have been inventoried and recorded has, in fact, been inventoried and recorded, whether credits and debts have been checked and put into effect, whether collective withholdings and depreciation expenses have been deducted, whether a fiscal system has been established, etc. These tasks should be regarded as major ingredients in the safeguarding of collective property and consolidation of the collective economy.

This year's summer earnings distribution work has yet another feature. Because during the time of fall sowing last year temperatures were low in the north and the south had much rain, which hurt quality of fall sowing and wheat seedling growth, plus damage caused by drought in some areas, the size of the summer harvest differs from one place to another, individual areas having bumper, ordinary, or lean harvests. This situation requires intensified unified planning with due consideration for all concerned and equitable arrangements. Bumper harvest areas have to carry forward the spirit of love for the country and love for the collective to make a greater contribution to the country and to the collective. Places having ordinary harvests should assure fulfillment of state quotas and proper collective withholdings should be made. Communes and brigades with lean harvests must provide for the livelihood of commune members first of all, and show concurrent concern for the welfare of the three after this has been done. It is also necessary to consider the customary living standards of commune members and proportionally watch summer grain with autumn grain. Places having a large ratio of summer grain production should, in addition to providing for commune members' livelihoods, do everything possible to better fulfill state purchase quotas.

Leaders at all levels, particularly county and commune leaders, must devote their energies to doing a good job of this year's summer earnings distribution work. They should particularly combine summer earnings distributions, inspection of how well Central Committee Document No 1 has been carried out, and the actual state of improvements in responsibility systems. All problems requiring solution should be solved and experiences should be summarized for steady progress. As a result of summer earnings distributions, the zeal of commune members will be encouraged and greater efforts devoted to production for the year as a whole to achieve a situation in which the summer provides impetus for the fall, for ceaseless and unremitting work to win a good harvest in agriculture for the year as a whole.

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NEED FOR IMPROVED EFFECTIVENESS OF WATER PROJECTS STRESSED

Beijing NONGCUN GONGZOU TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 1982 p 16

[Article by Luo Zicheng [7482 1311 4453]: "Strive To Increase Water Conservancy Project Economic Benefits"]

[Text] Improvement of management to increase economic benefits from existing farmland water conservancy projects is one major aspect of improvement in benefits from the agricultural economy today.

Agricultural production is biological production, and it is inseparable from the restraints and influences of light, heat, water, soil, and climate. China frequently experiences drought and flood disasters. If water conservancy projects are effectively handled, not only do farmlands benefit with water, but drought and flooding can be resisted. During the past 3 years, the agricultural economy has burgeoned, and a determining factor has been the correctness of the line and policies that have followed from the Third Plenary Session of the 11th Party Central Committee, which have aroused the enthusiasm of hundreds of millions of peasants. In addition, this burgeoning is inseparable from the vigorous support given to agriculture by the state over a long period of time for the building of farmland water conservancy projects on a fairly large scale.

Now, in this period of national economic readjustment, the state is experiencing certain hardships in public funding and, for the moment, the peasants also lack the resources to build new large scale water conservancy projects. Better use of the role of existing water conservancy projects possesses major practical significance. Leadership departments concerned have put forward guiding programs centering on the strengthening of management and increasing benefits. We must pool our efforts and wisdom to manage existing water conservancy projects well, and to make better use of the benefits they provide to create further favorable conditions for steady increases in output.

For a long time water conservancy project management has been rather antiquated. This has been manifested in the following: production with calculation of costs, lack of standards pertaining to earnings and expenses, no fixing of responsibility for work, no concern about benefits from the work that is done, and egalitarian "eating out of a large common pot" no

matter whether one works much or little, well or badly, or works or does not work. In many places projects have fallen into disrepair or have been damaged, and some project systems have not been equipped to form a coherent whole. Some management conditions are poor. There has been a general lack of sources for funds making difficult necessary maintenance and repairs. Grassroots units at many water conservancy projects have been hard pressed even to maintain simple reproduction. Consequently, strengthening of farmland water conservancy project management is an urgent and important task.

The nub of improved management is the building of various forms of economic responsibility systems. Results of experiences at pilot project units in various places in Sichuan Province have been very good. They instituted centralized management, individual unit (or individual segment) accounting, specialized contracting, and fixing of responsibility on individuals, linking remuneration to output and benefits provided. A change was made from the overcentralization of individual rights, water rights, and property rights to their transfer to a lower level. Once grassroots management units had the right of self-determination, management personnel, staff and worker, and commune member enthusiasm was aroused. Various production, economic, and technical norms were also fairly readily implemented for fulfillment and overfulfillment of production quotas, which increased enterprise earnings and expanded and increased project benefits. Many pilot project units made a change for the long standing losses of the past to self-sufficiency or substantial self-sufficiency for their own expenses, and some even showed a profit.

In the strengthening of water conservancy project management, attention should be given to all-around operations, the development of the raising of fish, generation of electricity, growing of cotton, raising of poultry, afforestation, and tourism in a change from the former way of doing things of "looking after dams and guarding reservoirs, releasing water and maintaining ditches." In order to make full use of local area and local unit natural resources, a change has to be made away from the former reliance on the state to provide expenses, or just collecting small water fees, to the broadening into diverse sources for funds. The form of operations is also to be managed solely by water conservation units in gradual development in integrated operations managed by project areas, irrigation areas, reservoir areas and surrounding communes and brigades. As a result of consultations, some places may jointly operate small hydropower stations, branch companies for aquatic products, and jointly operated forest enterprises, etc., on a basis of voluntary participation and mutual benefit. Such all-around joint operations cement relationships between project management units and the surrounding masses. They broaden financial resources, increase funds for repairs and maintenance, promote project safety, and improve project benefits. They are advantageous for the state, collectives, and the masses.

Today the effectiveness coefficient for water used in irrigation in China is about 0.4. For some wetlands the volume of water used for irrigation amounts to 1,500 cubic meters; for drylands it amounts to as much as 800 cubic meters, more than double the normal quotas. In many areas, large amounts of water are used in flood irrigation and irrigation by channeling water along furrows,

causing abandonment or recession of water, which both seriously wastes water resources and causes soil salinization and alkalization. Consequently use of water must adhere to sensible fixed quotas and the strengthening of scientific and technical guidance on use of water. Furthermore, some readjustment of overly low water prices has to be made, fees being collected per cubic meter, with graduated increases in rates for consumption in excess of quotas.

Strengthening of water conservancy project management to increase benefits also requires steady strengthening and improvement of project quality, increased capabilities for guarding against floods and draining waterlogging, and improved project standards to assure project safety, particularly the safety of dangerous dikes on dangerous reservoirs. For the small number of projects on which construction continues, quality must be guaranteed so that work on them will be promptly completed and they can go into production.

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FARMLAND WATER CONSERVANCY RESPONSIBILITY SYSTEM EXPLAINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 Jun 82 p 1

[Interview with Qian Zhengying [6929 29735391], minister of Water Conservancy and Power by ZHONGGUO NONGMIN BAO reporter: "Enhance Farmland Water Conservancy Responsibility Systems to Make Full Use of Existing Project Benefits; date and place not specified]

[Text] Following institution of agricultural production responsibility systems, how should farmland water conservancy work be changed to meet the needs of the developing situation? Recently a reporter from this newspaper called on Water Conservancy and Electric Power Minister Qian Zhengying to ask this question.

Question 1: How has it been possible to get fairly good harvests during the past several years despite the occurrence of serious natural disasters in many of the country's agricultural production areas?

Answer: The basic reason it has been possible to reap fairly good harvests despite the rather frequent incidence of droughts and floods in China during the past several years has been institution of agricultural production responsibility systems that have aroused the enthusiasm for production of the broad masses of the peasants. In addition, the large numbers of farmland water conservancy projects that have been constructed since the founding of the People's Republic have also played a major role in the fight against natural disasters.

In the 32 years since founding of the People's Republic, China has built more than 80,000 medium and small size reservoirs, more than 6 million small ponds, more than 2 million pump wells for agricultural use, and has developed more than 7 million horsepower of drainage and irrigation machinery. As a result, about 46 percent of cultivated land has irrigation facilities and 260 million mu of lowlying land has been brought under initial control. The building of these farmland water conservancy and farmland capital construction projects has provided a solid material foundation for increases in agricultural production. Last year drought in the six provinces of Hebei, Henan, Jiangsu, Anhui, Hubei, and Hunan covered a 150 million mu area; however, since these six provinces had substantial water conservancy facilities and put them to fair use, the disaster area was reduced to only 47 percent of the drought area, and total grain output increased by 18 billion jin over 1980. Meanwhile in Guizhou and Gansu

provinces where water conservancy conditions are comparatively poor, the disaster area was more than 80 percent of the drought area resulting in a drop in output.

Of course, it is also necessary to realize, on the other hand, that benefits from existing farmland water conservancy facilities have not yet been realized to the full. In some places, because of consecutive years of drought with little rainfall, reservoir and pond water storage is in poor condition; the ground water table has dropped tremendously, and pump wells are unable to raise water. In other places the water storage situation is poor as a result of not having fully equipped facilities or poor management. Ways must be gradually found to conscientiously solve these problems.

Question 2: Following Institution of Agricultural Production responsibility systems, what new problems did farmland water conservancy work encounter?

Answer: Since agricultural responsibility systems grew very quickly, in some places water conservancy was unable to catch up at once. In places practicing both the fixing of output quotas on a household basis and assigning full responsibility for task completion on a household basis, in particular, some commune and brigade cadres threw up their hands and had nothing to do with farmland water conservancy work. As a result, in both project management and use of water for irrigation, some problems arose. Some projects fell into disrepair; little water was stored in reservoirs and ponds, water pumping equipment was poorly maintained or even stolen, sold, and privately divided, and the specialized water management corps was disbanded. In some places there were even instances in which [four characters illegible], ponds and reservoirs were abandoned and not used and destructive acts such as dynamiting and poisoning of fish perpetrated. Meanwhile water use and [one character illegible] use steadily increased. During periods of fight against drought there was competition for water and seizing control of water. In South China where there are ricefields that are irrigated and drained one after another, in particular, fights increased about "fields water traverses." The outbreak of the aforestated problems was due not to institution of agricultural production systems of responsibility but rather resulted from failure of our water conservancy work to keep up with the developing situation.

Question 3: In order to meet further the rural situation, where should the emphasis be placed now in farmland water conservancy work?

Answer: In view of the foregoing problems, farmland water conservancy systems of responsibility must be instituted to make full use of benefits from existing water conservancy projects.

With the approval and sending forward last year by the former State Agricultural Commission of the "Report on Nationwide Enhancement of Farmland Water Conservancy Work Responsibility Systems," almost 50 percent of farmland water conservancy projects throughout the country have instituted different forms of management responsibility systems. These include those in Shandong, Shanxi, Sizhuan, and Guizhou provinces where, because of serious attention on the part of leadership, the drawing of experiences gained at key points for



promotion in all areas, and tailored guidance, progress has been relatively rapid. Facts have shown rather remarkable results from institution of farmland water conservancy responsibility systems as follows: First is fundamental solution to the problem of no one being in charge and impetus to water conservancy project repair and maintenance. Second is an intertwining of the responsibilities, rights, and benefits of management personnel, arousal of their enthusiasm not only for taking care of good use of project water but also for giving impetus to development of economic diversification for the realization of self-sufficiency in meeting project management expenses with some surplus. Third is increase in the in-operation rate of facilities, reduction in energy consumption, and a lowering of costs for lifting water. Fourth is institution of water conservancy building responsibility systems with the use of economic methods such as agreements systems, and contracting systems to institute plans and manage construction, increasing results obtained from use of water conservancy funds, hastening speed of project construction, and guaranteeing project quality.

Question 4: What is the form of farmland water conservancy responsibility systems currently in being?

Answer: In accordance with different circumstances, each jurisdiction has adapted general methods to local situations to adopt diverse forms of farmland water conservancy responsibility systems. In their form of management, mostly they are contract responsibility systems practicing the linking on the type of project, and differences in size and production team management systems, they have linked "responsibilities, rights, and privileges" under the centralized leadership of communes and brigades and centering around "fixeds, contracts, and bonuses," with individualized practice of all around contracting, specialized contracting, contracting for individual tasks, and large scale assignment of responsibilities. In some places where irrigation districts cut across brigade lines, management of water use is done by centralized reporting to production teams on quantities of water used and times of use. Management units maintain an overall balance, send water to brigades, render payments above and collect fees from below, apportion water to teams and to households, and enforce payment of basic water fees and water fees based on calculation of quantities used, with increases in price for overuse. Water from small ponds is also under production team management for release with "the stroke of a hoe." Production teams centrally arrange the order in which people will receive water depending on their distance, and difficulties in providing water to them in a centralized allocation of water resources.

Those who have not yet established farmland water conservancy responsibility systems should take matters firmly in hand and build them with all possible speed. Those who have already established them should further perfect them.

Question 5: What new problems should be given attention in future farmland water conservancy construction?

Answer: As a result of 32 years of construction, China's farmland water conservancy endeavors have a definite foundation. For now and for a certain time in the future, the main task is strengthening of management to derive benefits. Emphasis should be placed on elimination of hazards and reinforcing



projects, equipping them fully to tap potential, maintenance and replacement, as well as clearing away of sediment and preventing seepage, so that project benefits can be fully brought into play. In some places the foundation for water conservancy is weak, and if the problem of irrigating as yet unirrigated places in drought areas, and the problem of drinking water for people and livestock is to be solved, a certain amount of new construction of medium and small projects will have to be done; however, action should be taken only within capabilities, with efficiency being the goal.

There are two situations in farmland water conservancy construction today that should arouse concern. One is that following practice of production responsibility systems, in order to improve production conditions, increase output and increase earnings, peasants have been very enthusiastic about the building of small farmland water conservancy projects. Communes and brigades have collectively invested funds, and groups of households have pooled funds in a spontaneous building of water conservancy projects, one after another. However, because organizational leadership and technical direction has not kept apace and because of a lack of necessary rules and regulations, projects have not been equitably distributed and quality of construction has been poor, which will mean a future waste of manpower, material and financial resources. Secondly, in some places commune and brigade cadres have thrown up their hands and have not cared, as a result, farmland water conservancy construction has stagnated. Not only have new projects that should have been built not increased, but because of lack of needed repairs, reinforcement, and replacement of equipment at existing water conservancy projects, it has been impossible to maintain even simple reproduction, resulting in needless losses for agricultural production. These two situations require close attention and solution.

In his government work report to the Fourth Session of the Fifth National People's Congress, Premier Zhao Ziyang noted that "It is necessary to make equitable use of the investment of labor of several hundred million peasants to carry out capital construction such as farmland water conservancy." Now, in the process of improving and consolidating agricultural production responsibility systems, many places have factored in workdays required for farmland water conservancy construction. Some areas have also made rules and regulations requiring workforces in every rural village to do a certain accumulated amount of required labor each year on farmland water conservancy capital construction. Politically, emphasis has been on continued adherence to the principles of those who benefit are to be responsible, and of voluntary participation and mutual benefit for exchanges at equal value and payment of compensation according to labor done, the greater the work the greater the gain. These methods are very good. I believe that with conscientious implementation of the programs and policies that have followed from the Third Plenary Session of the 11th Party Central Committee, steady elimination of the effects of leftist ideology, strengthening of leadership, reliance on the masses, and doing a solid job, farmland water conservancy construction will inevitably see further development, and will play a greater role in agricultural production.

EXTENSIVE FRESHWATER FISH BREEDING URGED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 1982  
pp 20-21

[Article by commentator: "Strive by Every Available Means for Great Growth in the Fishing Industry"]

[Text] Since Liberation, China's aquatic product enterprises have seen definite development, and numerous typical instances of high yields have occurred. Nevertheless, in an overall sense, the fishing industry's output remains very low and there is always a shortage of fish supplies in markets. As a result of excessive and indiscriminate fishing, within a short period of time fishing industry resources have been seriously damaged, so that now catches must be controlled so that resources can rest and recuperate. Therefore, the trend of development in the fishing industry must inevitably be away from sole reliance on catches of natural resources to artificial freshwater and marine breeding. This is not only an effective way of increasing supplies of aquatic products now, but is also the long range, strategic method and direction for China's development of aquatic product enterprises.

Development of a freshwater breeding industry holds greater economic benefits than development of the livestock industry. The number of fish that can be raised in a cubic volume of water is much greater than the number of livestock that an equivalent amount of land will support. Fish are cold blooded animals whose energy consumption and feed requirements are less than for livestock or poultry, and the edible portions of which and the amount of protein provided from an equal quantity of feed is higher than from livestock animals or poultry. In addition, they help maintain the ecological environment, improve the structure of agriculture, and develop the rural economy in an all-around way so that the broad masses of peasants may prosper with all possible speed.

Ours is a vast land with widespread areas of water whose geographical position is temperate, favoring growth of fish. Traditional experience exists for the raising of freshwater fish, and the broad masses of people and scientists and technicians have created new techniques. China has bountiful resources and tremendous potential for development of a freshwater fishing industry. However, China has scant accumulated wealth, and its financial and material

resources are limited. The work foundation for aquatic product departments themselves is also fairly poor. If the freshwater fishing industry is to be improved with all possible speed, the emphasis now should be toward doing the following five jobs.

1. Further Improvement of Understanding and Genuine Strengthening of Leadership. CCP committees and government at all levels, county level party and government leadership organizations in particular, must establish a greater agriculture concept with all-around implementation of a program of simultaneous development of farming, forestry, animal husbandry, sideline occupations, and fisheries, the same heavy emphasis given grain farming being devoted to the restructuring and use of water surfaces. The fishing industry has to be really placed on important daily agendas and forceful cadres made responsible for this work, attention being devoted to it several times each year for effective solution to genuine problems in production. While readjusting structures, all jurisdictions should establish and perfect the structure of the fishing industry, and assign a certain number of aquatic products cadres and technicians to it. Materials required by the freshwater fishing industry should be made a part of the plan for all-around arrangements to assure supplies.

2. Adherence To a Program For the Near Term of Development of the Freshwater Fishing Industry. Development of a freshwater fishing industry requires mobilization of forces in all areas and fullest use of all kinds of water surfaces in a combined program of breeding, multiplication, raising, and catching in which breeding is the key. Full use should be made of the leadership and exemplary role of state owned fishing industries. Emphasis should be on development of commune and brigade fishing industries, and commune member households and entrepreneurial units should be encouraged to raise fish to produce a situation as rapidly as possible of joint efforts by the state, collectives, and individuals. Continued strong attention should be given the building of commodity fish bases to provide city and countryside with larger quantities of live, fresh fish. Cities themselves should develop suburban raising of fish in the same way that they took in hand production of fresh vegetables. Ponds, small lakes, and reservoirs have extensive water surfaces suitable for intensive raising of high yields. This will be the focus of development in the near term; however, one should not overlook use of the water surfaces that large lakes and large reservoirs provide. For large and medium size water surfaces, most important at the moment is diligent attention to fully equipping the fishing industry, strengthening of management, multiplying resources, and sensible catches. Emphasis should be given the equitable use of water surfaces, general methods being adapted to specific bodies of water for development of diverse aquatic animals and plants.

3. Diligent Carrying Out of Various Fishing Industry Policies. Policies pertaining to water surfaces should be put into effect, and water surface use rights made clear and consolidated. The overall principle must be that whoever owns the water surface operates it. Also possible is the organization on the basis of voluntary participation and mutual benefit of various forms of joint ventures. No further changes should be made for water surfaces whose

use has been made definite. Water surfaces that straddle boundaries about which there are disputes should be resolved through consultations by all parties concerned in meetings convened by appropriate high leadership organizations. Lakes and streams belonging to the state that have not yet been put to use should, insofar as possible, be operated by communes and brigades. Odd fragments of water surfaces not readily amenable to collective operation may be designated for individual commune member operations. Once use rights have been decided on, no change is to be made for a long period of time and they are to be protected by the law.

Aquatic product procurement and marketing policies are to be put into effect. In order to enliven the economy and make markets boom, state fish farms, specialized communes and brigades and reservoir, and state farm and land reclamation unit fishing industry protection units must assure fulfillment of state assigned procurement quotas as regards both quality and quantity. Products in excess of assigned quotas may be disposed of by producing units as they see fit. The state has no assigned procurement quotas for fish raised by communes not specializing in the raising of fish or by commune member households, and such fish may be freely sold. In setting procurement and marketing policies, all jurisdictions must consider both what benefits fishing industry production, and assure urban residents a certain quantity of fish at parity price.

Putting into effect policies for fish feed supplies. Feeds needed by state fish farms, reservoirs, specialized fishing industry communes and brigades for the raising of fingerlings, and parent fish, and for raising of fish in net cages, and in warm running water, should be made a part of plan to be provided in accordance with pertinent State Council regulations, and quotas should be promptly readjusted in accordance with actual needs as production develops. Feeds needed for the raising of fish by rural communes and production brigades may be centrally withheld from feed grains or a certain amount of land may be designated for the raising of feed. Breeding of fish to meet state assigned quotas should be recompensed with supplies of feed grain, the level doing the procurement and dispatching the fish to the state receiving the grain.

Policies pertaining to protection of waterlands and aquatic product resources are to be put into effect. Protection of waterlands requires no enclosing of lakes, filling in of ponds or enclosing reservoirs to make farmland, and those that have been enclosed to reclaim land without compensation must be returned in a planned way to fishing. Industrial plants and mining enterprises are to be required to discharge waste water in accordance with environmental protection laws and fishing industry water quality standards. All who pollute fishing industry waters causing losses will have to pay compensation according to law, and the responsibility of leaders will be fixed. Funds required to build water conservancy projects and to construct necessary facilities to help succor fish should be made a part of plan for overall arrangements. When units concerned take over fishing industry grounds for capital construction or other needs, they must obtain permission and pay compensation in the same way as when requisitioning land. Resolute action must be taken to halt poaching, over fishing, poisoning of fish, and

dynamiting of fish. All levels of party and government leadership organizations are to intensify ideological and political work so that fishing area cadres and the masses will have an enhanced conception of the law and will consciously struggle against the unhealthy trends and evil practices that cause damage to fishing industry production. Water police sub-stations are to be put back in operation on all large rivers, lakes, and reservoirs, and some state fishery farms may establish fishing industry police. Illegal conduct that seriously damages aquatic product resources and fishing industry production public procurator departments are to strictly handle according to the severity of offenses.

Fishing industry production responsibility system policies are to be carried out. Both state and collective fishing industry production units are to institute various forms of production responsibility systems in accordance with freshwater breeding characteristics, production conditions mass awareness, and levels of management. Where they have been established, so long as they benefit production and the masses are satisfied, they should be gradually perfected while being consolidated. Where they have not been established, a good job should be done to help gradual implementation.

4. Strict Attention To the Building of Key Projects. Development of a freshwater fishing industry requires that some capital construction be done. All jurisdictions may size up their own situation and devote attention to construction of key projects. A first requirement is continued serious attention to the building of commodity fish bases. Not only should the state, each province, municipality, and autonomous region with conditions operate them, but cities too should build their own commodity fish bases. State owned lake and reservoir fish breeding farms should emphasize full installation of equipment to increase production capacity. Collective fish raising pond and weir restructuring is to be included in farmland capital construction plans for each jurisdiction for overall arrangements. Mostly such restructuring will rely on commune and brigade resources for implementation. Second, attention should be given to building of fry and fingerling production. All jurisdictions should begin with strengthening of planning and management for fry and fingerling production at the county level using centralized planning and equitable distribution to maintain balanced planning for fry and fingerling production. Fine variety bases should be built to fully tap existing state owned fish farm and commune and brigade fish farm fry and fingerling production potential. Net cage breeding, ricefield breeding, and raising of adult fish and fingerlings in the same ponds should be encouraged.

5. Spread of Freshwater Fishing Industry Scientific and Technical Knowledge. For the freshwater fishing industry to advance, it has to take the road of scientific fish breeding. All jurisdictions are to do a good job of surveying and zoning fish resources, make the most of local advantages, and make rational selection of both water surfaces and varieties to be bred. The main targets for study should be problems requiring little effort to solve. Forces should be organized and the indigenous and foreign combined for a concerted attack to solve problems as quickly as possible so that China's traditional fish breeding techniques will be steadily improved, the better

to serve production. Counties and communes having a fairly large number of water surfaces should gradually build aquatic products technical promotion organizations, establish specialties and fishing industry technicians who are exempt or semi-exempt from production. They should also bring into play the role of "native experts." At the same time they should use various methods for popularizing freshwater fishing industry scientific and technical knowledge.

CCP Central Committee leadership comrades are extremely solicitous about development of the freshwater fishing industry and have set a target for struggle of trying to attain an output of 4 million to 5 million tons of freshwater fish by the end of the 1980's. Much arduous work will be required to realize this magnificent goal. All that is needed is serious attention by the party as a whole, arousal of the masses, reliance on policies and secondly on science, and solid efforts and great development of the country's freshwater fishing industry production is a certainty.

9432

CSO: 4007/443

REGULATIONS GOVERNING QUARANTINE INSPECTION OF IMPORT, EXPORT ANIMALS, PLANTS

Beijing RENMIN RIBAO in Chinese 23 Jun 82 p 4

[Beijing XINHUA 22 June 82: "Recently the State Council has Issued "The People's Republic of China Regulations on Quarantine Inspection of Import and Export Animals and Plants," the entire text is as follows]

[Text] Section 1. General Provision

Article 1. These regulations are issued to tighten quarantine inspection of import and export animals and plants in order to protect the agricultural, forestry, animal husbandry, and fishery production of our country and the health of our people; to maintain our creditable reputation in foreign trade; to meet our international commitments; and to prevent the importation and exportation of diseases, pests, weeds, and other organisms harmful to animals and plants.

Article 2. The quarantine inspections provided in these regulations shall apply to all commercial and noncommercial animals, plants, animal and plant products, and the means of transporting same to enter, leave, or transit the People's Republic of China. The particulars are as follows:

- (1) Animals: including domestic animals, domestic fowls, wild animals, bees, fish, silkworms, etc.
- (2) Animal Products: including rawhides and pelts, furs, meats, internal organs, fats, blood, eggs, sperm, bones, hoofs, horns, etc.
- (3) Plants: including cultivated plants, wild plants and their seeds, saplings, breeding materials, etc.
- (4) Plant Products: including grains, beans, cotton, oil, hemp, tobacco, kernels, dry fruits, fresh fruits, vegetables, raw medicinal materials, logs, fodders, etc.
- (5) Vehicles, vessels, and aircrafts used transporting animals, plants, animal and plant products as well as packaging, bedding and lining materials, and feeding utensils, etc.



Quarantine inspection shall also apply to other commodities and the means of transporting them which could carry quarantine objects.

Article 3. Infectious animal diseases and parasites, harmful plant diseases and pests, weeds, and other harmful organisms (generally known as diseases and pests) are classified as quarantine objects, and diseases and pests subject to inspection.

(1) Quarantine objects are diseases and pests barred from entering the country. A list of quarantine objects shall be published by the Ministry of Agriculture, Animal Husbandry and Fishery.

(2) Diseases and pests subject to inspection are those diseases and pests required to be inspected by agreements, accords, or commercial contracts with foreign countries, or upon application by any export unit for quarantine inspection.

Article 4. Animal and plant quarantine inspection offices or stations (generally known as port animal and plant quarantine inspection authority) established by the People's Republic of China at its ports, airports, land and river border ports open to international traffic, and in related provincial capitals and the capitals of the autonomous regions shall represent the state to perform quarantine inspection on import and export animals and plants.

Article 5. All import and export animals, plants, animal and plant products, and their means of transport must have quarantine inspection clearance before they shall be permitted to enter or leave the country.

## Section 2. Import Quarantine Inspection

Article 6. Prior approval of the Ministry of Agriculture, Animal Husbandry and Fishery shall be required for the importation of animals and animal products. Prior approval of the Ministry of Forestry shall be required for the importation of wild animals and their products.

To import seeds, saplings or breeding materials, the importing department, if it is an agency of the State Council, shall file a "Quarantine Inspection Form for Import Seeds and Saplings" with the Ministry of Agriculture, Animal Husbandry and Fishery or the Ministry of Forestry for approval; or if the importing department is an agency in an appropriate province, autonomous region and municipality it shall file for approval in the department (bureau) of agriculture (forestry, reclamation) of that province, autonomous region and municipality.

Article 7. Commercial contracts or agreements of technical cooperation, gift, exchange or aid which cover the importation of animals, plants or animal and plant products shall specify the quarantine inspection requirement of the state, or the quarantine inspection agreement reached between the governments concerned, and the requirement of quarantine inspection certificates issued by the appropriate authorities of the exporting countries.



Article 8. Import animals, plants, and animal and plant products shall be subject to quarantine inspection by the port animal and plant quarantine inspection authority.

(1) Before or upon the arrival of the commodity at the port of entry, the consignee unit or its agent shall file an application for quarantine inspection (or bill of lading) and the quarantine inspection certificate issued by the exporting country with the port animal and plant quarantine inspection authority to ask for inspection.

(2) The quarantine inspection of an incoming train or automobile shall be performed on board the vehicle by the port animal and plant quarantine inspection authority in conjunction with the joint inspection, or on board an incoming vessel after the joint inspection, or on the spot where cargo is unloaded from an incoming aircraft.

Article 9. If neither quarantine objects nor diseases and pests subject to inspection are detected during the inspection, the imported animals, plants, or animal and plant products in question shall be permitted to enter the country after receiving a "quarantine clearance notice" or a "quarantine clearance chop" stamped on the bill of lading.

Article 10. If import animals or animal products are found to contain quarantine objects or diseases and pests subject to inspection, the applicant for inspection shall be issued, appropriate to the situation, a "quarantine treatment notice" to inform him of the different measures to be taken:

(1) The animal with a serious infectious disease and the whole shipment thereof shall be returned, or slaughtered and destroyed.

(2) The animals with a common infectious disease shall be returned or slaughtered and destroyed; and the whole shipment thereof shall be kept at an animal quarantine center or any designated insulation area for observation.

(3) The animal with an infectious disease shall be given medical treatment.

(4) The contaminated animal product shall be sterilized, returned, or destroyed.

Once the animals quarantined for observation in accordance with (2) and those given medical treatment in accordance with (3) are found free of diseases, and once the animal products sterilized in accordance with (4) are cleared of contamination, they shall be permitted to enter the country.

Article 11. If import plants or plant products are found upon quarantine inspection to contain quarantine objects or diseases and pests, the applicant for inspection shall be issued a "quarantine treatment notice" to inform him to fumigate, sterilize, restrict the use of, return or destroy the imports in question. After decontamination by fumigation and sterilization, the imports shall be permitted to enter the country once they are cleared by inspection.

Article 12. The quarantine inspection and treatment of import animals, plants, or animal and plant products shall be performed at the port of entry.

If, due to lack of facilities at the port of entry or for any other reason, the treatment should be performed at a designated locality inland, the approval of the Ministry of Agriculture, Animal Husbandry and Fishery shall be required. To prevent possible spread of the infections, the shipment, loading and unloading thereof shall be strictly monitored, and the local quarantine inspection authorities shall be asked to supervise the operations.

Article 13. The sites, warehouses, means of transportation, bedding and lining materials, and feeding utensils contaminated by the quarantine objects or diseases and pests subject to inspection shall be treated by the applicant for inspection or the consignee in accordance with the requests specified by the port quarantine inspection authority.

Article 14. The port animal and plant quarantine inspection authority may, in accordance with the conditions, issue quarantine inspection certificates to imported animals, plants, and animal and plant products which are found upon quarantine inspection to contain quarantine objects or diseases and pests subject to inspection.

Article 15. The importation of the following items shall be barred:

- (1) Pests harmful to health, animal and plant pathogenic microorganisms (including starters, toxins and bioproducts), and other harmful organisms.
- (2) Animals, seeds, saplings, breeding materials, and easily infected animal and plant products from any country or region affected by serious epidemics.
- (3) Soil.

The Ministry of Agriculture, Animal Husbandry and Fishery shall issue a list of the items barred from importation by the aforesaid provisions. In case the importation of any items thereof is required for scientific research, the importing unit shall file an application with the Ministry of Agriculture, Animal Husbandry and Fishery for special permission to import them.

### Section 3. Export Quarantine Inspection

Article 16. To export animals, plants, plant products, and noncommercial animal products for which quarantine inspection is required, the exporting unit or its agent shall file an application for inspection and the quarantine inspection certificates issued by their place of origin with the port animal and plant quarantine inspection authority for inspection. Those cleared upon inspection shall be issued quarantine inspection certificates and released. The export quarantine inspection of commercial animal products shall be performed by the import and export commodity inspection authority.

Article 17. Export animals, plants, and animal and plant products which are found upon quarantine inspection to contain diseases and pests subject to inspection shall be barred from export, or permitted to export after decontamination treatment.

Article 18. The contamination sites, warehouses, means of transport, bedding and lining materials, and feeding utensils shall be treated in accordance with the provisions of Article 13 of these regulations.

#### Section 4. Quarantine Inspection of Passenger-carried Items

Article 19. The quarantine inspection of animals, plants, and animal and plant products carried or shipped by incoming passengers or by transport staff and workers shall be performed at the port of entry. If no quarantine objects are detected upon inspection, they shall be cleared and released. If quarantine objects are detected, they shall be barred from entry, or cleared and released after sterilization. If results of quarantine inspection are not readily available on the spot, they shall be impounded for inspection, and the owner shall be notified of the findings and treatment.

Article 20. Raw meats carried out shipped by incoming passengers or by transport staff and workers shall be given antiepidemic treatment before clearance for entry.

Article 21. Animals, plants, and animal and plant products carried or shipped by outgoing passengers or by transport staff and workers shall be given necessary quarantine inspection and issued quarantine inspection certificates.

#### Section 5. Quarantine Inspection of International Postal Parcels

Article 22. Plants and plant products entering the country by mail shall be inspected by the port animal and plant quarantine inspection authority, and a postal quarantine clearance chop shall be stamped on the inspected postal parcel and released. If quarantine objects are detected, the postal parcel, after receiving quarantine treatment, shall be issued a "quarantine treatment notice" and turned over to the post office for delivery to the addressee. In case quarantine treatment cannot be performed, the postal parcel shall be labelled rejected and turned over to the post office for return to the sender. If the postal parcel should be destroyed, a "quarantine treatment notice" shall be issued for the post office to forward to the sender.

Raw animal products shall not be permitted to enter the country by mail (except small amounts of samples).

Article 23. Plants, and animal and plant products leaving the country by postal parcels shall be given necessary quarantine inspection and issued certificates.

Article 24. Pests harmful to health, animal and plant pathogenic microorganisms (including starters, toxins and bioproducts), other harmful organisms, and the natural enemies of diseases and pests sent into the country by mail shall be covered by permits issued by the Ministry of Agriculture, Animal Husbandry and Fishery.

## Section 6. Transit Quarantine Inspection

Article 25. The shipping attendant or carrier of animals, plants, and animal and plant products in transit shall file an inspection application form (or bill of lading), and the quarantine inspection certificates issued by the exporting country with the animal and plant quarantine inspection authority at the port of entry for quarantine inspection. No further quarantine inspection shall be required at the port of departure.

Article 26. If plants, animal and plant products shipped in transit by train, automobile, or aircraft change train, automobile or aircraft in a port within our territory, the exterior of the packages shall be inspected during the change. If they transit in the original vehicle or aircraft, the exterior of the vehicle or aircraft shall be inspected. If no quarantine objects are detected upon inspection, a "quarantine clearance notice" shall be issued or a quarantine inspection release chop shall be stamped on the bill of lading to allow the shipment to pass through. If quarantine objects are detected, the whole shipment shall be turned back. The contaminated sites and tools used shall be treated in accordance with the provisions of Article 13 of these regulations.

Article 27. Animals shipped in transit shall be permitted to pass through if they are found upon quarantine inspection to be free of quarantine objects. The whole shipment shall be turned back if they are affected with quarantine objects. The sites and tools thus contaminated shall be treated in accordance with the provisions of Article 13 of these regulations. During transit, animal fodder, excrement, bedding straw, dirt, and carcasses shall be disposed of at designated localities, not to be abandoned at will.

If quarantine objects are detected in the fodder for the animals in transit, the shipping attendant shall be notified to change it and sterilize the contaminated fodder on the spot.

## Section 7. Penalties

Article 28. Commensurable penalties, including critical instructions, disciplinary action or fines shall be given when provisions of these regulations are violated. Serious violations shall be dealt with by the judicial authorities in accordance with the law.

## Section 8. Supplementary Provisions

Article 29. When a port animal and plant quarantine inspection authority performs its duties at a port, airport, railroad station, post office, or warehouse, the particular units concerned shall render all necessary assistance.

When quarantine inspection is performed on the spot, the applicant concerned shall be present to handle the moving, unpacking and repacking work.

A port animal and plant quarantine inspection authority shall issue receipts for any samples it selects for tests.

Article 30. When a department concludes with a foreign country any agreement, accord, or commercial contract which provides for quarantine inspections, it shall immediately notify the port animal and plant quarantine inspections, it shall immediately notify the port animal and plant quarantine inspection authority concerned.

Article 31. All port animal and plant quarantine inspection personnel shall wear quarantine uniforms and badges while performing quarantine inspections.

Article 32. A port animal and plant quarantine inspection authority may charge fees for performing quarantine inspections, and the specific measures therefor shall be prescribed by the Ministry of Agriculture, Animal Husbandry and Fishery.

Article 33. The rules for carrying out these regulations shall be laid down jointly by the Ministry of Agriculture, Animal Husbandry and Fishery and the Ministry of Forestry.

Article 34. These regulations shall take effect on the day of promulgation.

5360

CSO: 4007/458

NEW PESTICIDE DEVELOPED TO CONTROL APHIDS

Beijing RENMIN RIBAO in Chinese 11 May 82 p 1

[Article by the Office of Biological Prevention and Control of the Chinese Academy of Agricultural Sciences: "A New Agricultural Chemical for Biological Prevention and Control--Aphidicide"]

[Text] Aphidicide is the first new antibiotic pesticide for agricultural use developed and manufactured by our country on its own. Over the past 4 years, tests and demonstrations conducted on over 50,000 mu in 14 provinces, municipalities, and autonomous regions throughout the country have shown that aphidicide is effective in preventing and controlling orange rust tick, bloated red spider, apple red spider, cotton, aphid, and radish aphid. This new agricultural chemical has two main characteristics: it only kills the harmful insects and does not harm their natural enemies--the ladybug and the grass sandfly; its application density is low (6-15 parts per million), its residual period is short (72 hours), and it is not harmful to people or animals.

There are marked benefits from using aphidicide on economic crops. If used on oranges, its cost per mu is 15 to 30 percent lower than that of commonly used chemical pesticides, the ratio of insects to fruit is lowered by 15 percent, and the per mu income is increased by 42 yuan.

This biological achievement was tested and researched by the Microbiology Institute of the Zhejiang Provincial Academy of Agricultural Sciences. It was approved by the 1982 national aphidicide appraisal conference. This year it will be popularized and applied in eight provinces (autonomous regions), viz, Guangdong, Jiangxi, Ningxia, Anhui, Jiangsu, Shandong, Liaoning, and Zhejiang. In order to further meet the demand for its popularization and application, the Petrochemical Industry Bureau of Zhejiang Province has brought this new agricultural chemical into line with the 1982 state production plan by making the Tonglu and Tongxiang agricultural chemical plants responsible for its production.

9727

CSO: 4007/417

NATIONWIDE CONTROL OF COTTON FUSARIUM, VERTICILLIUM WILT PLANNED

Beijing ZHONGGUO NONGMIN BAO in Chinese 3 Jun 82 p 1

[Article: "Control of Fusarium Wilt and Verticillium Wilt of Cotton With All Possible Speed Is Requirements of National Cotton Quarantine Techniques Conference"]

[Text] In order to control with all possible speed the spread of fusarium wilt and verticillium wilt in the nation's cotton, the Agriculture, Animal Husbandry and Fishing Industry Ministry recently convened at Taian in Shandong Province a "National Conference on Cotton Fusarium and Verticillium Wilt Quarantine Techniques," which set June to September this year as the time for a national survey of fusarium and verticillium wilt in cotton.

Cotton fusarium and verticillium wilt first appeared in the United States, and was brought into China with the introduction from the United States of Stoneville cotton in the 1930's. They are two destructive diseases for cotton production. Once cotton contracts these two diseases, yields drop by a general 20 to 30 percent, by more than 60 percent in serious cases, or abort entirely. China's cotton production has developed fairly rapidly in recent years, the area planted steadily increasing. However, because some cotton growing areas viewed as important only increased cotton output to the neglect of fusarium and verticillium wilt quarantine prevention and control work, the area of incidence of these two diseases has steadily spread. The area stricken with these two diseases amounts to 20 percent of the total, and annually about 2 million dan of ginned cotton are lost. This February the State Council issued a notice requiring all cotton growing areas to take immediate action to bring these two diseases under control within 2 to 3 years in order to assure healthy development of China's cotton production. The present conference exchanged experiences about implementation of the spirit of the State Council notice in the prevention and control of cotton fusarium and verticillium wilt. It heard the views of experts, listened to specialized reports, and discussed formulation this year of specific methods and technical standards for a national survey of cotton fusarium and verticillium wilt. The conference asked that departments concerned in all cotton growing areas strengthen leadership and cooperate with local plant quarantine departments in carrying out this survey, and take effective action to control the continued spread of cotton fusarium and verticillium wilt. Delegates from 381 key cotton producing counties in 18 of the nation's provinces, municipalities, and autonomous regions attended this conference.

ANHUI

BRIEFS

SUMMER GRAIN PROCUREMENT--By 28 June, Taihe County, Anhui Province had put 62.06 million jin of summer grain into the state granary, overfulfilling the original grain procurement quota. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 2 Jul 82 OW]

SHUCHENG COUNTY RICE DISEASE--Anhui's Shucheng County has drawn up a plan for protecting its early crop from a disease called sheath and culm blight of rice. The plan calls for spraying 120,000 mu of affected early rice with insecticide. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

XIAOXIAN COUNTY COTTON DISEASE--Commune members in Xiaoxian County, Anhui, are actively engaged in combating cotton bollworms. By 22 June, prevention work had been carried out on the county's 240,000 mu of cotton. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

DANGTU COUNTY COTTON PRODUCTION--Cadres and commune members in Anhui's Dangtu County are stepping up cotton field management in order to ensure a bumper harvest this year. As a result, the county's 114,000 mu of cotton are growing well. [OW271137 Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

CSO: 4007/490



EDITORIAL RALLIES NORTH CHINA TO RENEWED FARMING EFFORTS

Beijing ZHONGGUO NONGMIN BAO in Chinese 30 May 82 p 1

[Editorial: "Rouse Enthusiasm, Do Overall Planning and Wage the Battle of Planting, Harvesting, and Providing Field Care"]

[Text] This year spring drought is severe in North China; however, because all jurisdictions have made great efforts to combat drought to assure a wheat harvest and to assure spring planting, in most areas of the country the summer grain situation will be better than had been formerly predicted. Spring planting quotas have been virtually completed according to plan, and quality of sowing has been generally pretty good. Now "grain fills" [around 21 May] has passed and in the basin of the Chang Jiang and the Huai, as well as in the middle and lower reaches of the Huang He, the busy season of the "three summer jobs" [planting, harvesting, and providing field care] is advancing. This requires the harvesting of several hundred million mu of wheat as well as the planting of several hundred million mu of summer crops, plus caring for several hundred million mu of spring sown grain, cotton, and oil-bearing crops. Effectiveness in the "three summer jobs" production is a crucial battle for winning a bumper harvest in agriculture for the year as a whole.

This year the "three summer jobs" production differs from former years. First of all, in wheat production there has been more practice this year than last of responsibility systems linking remuneration to output, and harvesting and threshing is fairly dispersed. Second, combatting drought to do summer planting is a big job. The drought affected area of North China now stands at close to 200 million mu, and some of the land that cannot be planted in spring will have to be switched at once to summer planting. Third, the cottonfield area has increased in Hebei, Shandong, and Henan provinces, and wheat harvest time is also a crucial time for cottonfield care, so conflicting demands on labor for summer harvesting and summer field care will be even more pronounced. Fourth is insufficient energy with a shortage of petroleum and electricity. The aforesaid new situation has intensified difficulties with production quotas for the "three summer jobs," and this requires that leaders at all levels rouse enthusiasm, do overall planning, and make the most of advantageous conditions to overcome disadvantageous factors in an effort to wage this "three summer jobs" war well.

Because of the increased amount of hot dry weather during the last 10 days of May, wheat harvest time is expected to come earlier, and the wheat harvest is a priority task. All jurisdictions must make ready their threshing floors and further implement and perfect farm machine management responsibility systems to make the most of the role of farm machines. They are to adapt general methods to specific situations, give tailored guidance, do an effective job of organizing for the wheat harvest, organize cadres, technicians, and old peasants to make a field by field appraisal of the wheat and to set up a time sequence for harvesting, each field being harvested when it is ripe, every grain being harvested and every grain being threshed. In the case of brigades practicing both the fixing of output quotas on a household basis and assumption of full responsibility for task completion, production teams should strengthen leadership and conscientiously organize cooperation among households, the exchange of labor, and making arrangements for threshing grounds and threshing to assure that the myriad households can harvest and thresh wheat promptly. They should assiduously work to prevent molding and rotting in rainy overcast weather, and to prevent fire. They should act to insure priority for the harvesting of fine wheat and strictly prohibit robbers from cheating the collective out of its wheat. Effective work should be done in the selection and holding back of seeds, holding back enough seeds for fall planting. Seed units should actively organize purchase and supply work.

In spring it is the days that count, and in summer it is the hours. While working on the wheat harvest, the opportune time for summer sowing cannot be lost. Effort must be put into early sowing and sowing well. Sufficient grain crops and economic crops have to be grown in accordance with state plan. The grain sowing area must be maintained stable with no reductions. Intercropping of corn in wheatfields is an effective method in North China for making full use of climatic and soil resources, for accentuating strengths and downplaying weaknesses, for moderating the conflict over labor, and for increasing output and earnings. General methods have to be adopted to specific situations, and every effort made to expand the intercropped area. In the basins of the Huang He and the Huai He, summer sowing of soybeans offers numerous advantages, and the growing of some soybeans over a certain area may be suitably revived. In seriously drought stricken areas of North China, some planting of summer sweet potatoes can be done. In drought stricken areas, combat against drought should continue in order to assure summer sowing, with efforts made to plant early, a day being a day and another mu planted being another mu.

Though most areas have done their spring planting pretty much on time this year, and though quality is also good; still, during the seedling growth stage the drought in some places has resulted in missed seedlings and black spots in furrows. Suitable arrangements should be made about workforces and time for serious attention to inspecting the seedlings, adding seedlings, thinning seedlings, singling seedlings, and combating drought to protect the seedlings for a good job of field care of the spring sown crops. Weak seedlings and third grade seedlings should be promptly cultivated, watered and fertilized so that they will move up in grade. Good prevention and control of diseases and insect pests should be done, and preparations should be made organizationally and materially to combat drought and guard against waterlogging.

The "three summer jobs" are big ones and time is short. Leaders at all levels are to go down into the frontlines of production to unearth problems and promptly solve them. All trades and industries should energetically support the "three summer jobs," and do a good job of transporting and supplying farm implements, petroleum fuel, electricity, chemical fertilizers, and agricultural pesticides. They should also do a good job of preparing for summer distributions, adhere to the seeking of truth in facts, diligently verify summer outputs, and show concurrent concern for the welfare of the state, the collective and individuals, and do a good job of summer grain and oil-bearing crop state procurement work.

9432

CSO: 4007/438

INSTRUCTIONS GIVEN ON HANDLING OF SUMMER GRAIN PROCUREMENT

Beijing ZHONGGUO CAIMAO BAO in Chinese 29 May 82 p 1

[Article: "Take Firmly in Hand Fulfillment of Summer Grain State Procurement Quotas"]

[Text] Summer grain crops will soon be arriving steadily at threshing grounds. This year is the first year for practice of assigned responsibility for state grain procurement, marketing, allocations and transfers with no change guaranteed for 3 years. Taking firmly in hand fulfillment and overfulfillment of summer grain state procurement quotas has a major bearing on winning the initiative in grain work for the year as a whole, for next year and the year after, for providing well for urban and country people's livelihoods, and for assuring national construction needs.

In some of the major wheat growing regions of North China a protracted drought has taken place since last year's fall sowing, and in some of the summer grain growing regions of South China low temperatures and much rain was encountered during the early stage. However, thanks to the strengthening of leadership at all levels of CCP committees and government, the further perfection and improvement of agricultural production responsibility systems, organization of the broad masses of peasants to fight drought and drain away waterlogging, and intensification of field care, damage caused by natural disasters was greatly reduced. This is the overall situation for the country as a whole. However, looked at in local terms, an uneven picture of fatness and leanness appears. Bumper harvest provinces and regions have places and communes and brigades with lean harvests. Lean harvest provinces and regions have places and communes and brigades with bumper harvests too. For this reason, in this year's summer grain procurement, it will be necessary to follow a program of the fat augmenting the lean. It will be necessary to strengthen ideological and political work, and to indoctrinate the broad masses of peasants in the "three concurrent concerns" to induce them to correctly handle relationships among the state, collectives and individuals, to surrender more grain and better grain to help disaster areas, and to support the national building of socialism as a glorious duty. All major producing provinces in North China must sell more wheat from bumper harvest areas. South China rice and wheat producing areas are also to actively fulfill and overfulfill summer great state procurement quotas so long as they do not impair state procurement of husked rice.

Last year some areas instituted quarterly price increases for grain and quarterly settlement of accounts. Production teams and commune members thus obtained increased prices for summer grain. This helped augment production funds and also helped the state procure more summer grain. Nevertheless, some problems exist in work, principally that some production teams and commune members sold summer grain in excess of quotas obtaining a higher price, but did not fulfill basic procurement figures in the fall, and the state could not retrieve the higher price it had paid for excess procurement. This year it is necessary to summarize experiences and to follow the principle of concurrent concern for the welfare of the state, the collective and individuals, further perfecting methods for paying increased prices for excess procurement of summer grain. In addition, there will have to be strict accounts settlement procedures to guard against mistakes and to plug loopholes.

In order to assure smooth fulfillment of summer grain state procurement quotas, during the procurement season each jurisdiction should intensify market management. All who have not fulfilled their summer grain procurement quotas may not send summer grain to market, nor should grain departments make purchases from them at negotiated prices. After state procurement quotas have been fulfilled production teams and commune members having surplus grain should be mobilized to continue to sell the excess to the state so that the fat will augment the lean. In addition, in accordance with the principle of marketing at the prevailing market price, slightly lower than the market price, negotiated purchases should be actively begun. It should be reiterated that grain and oil commodities must be regulated by the centrally administered policies of grain departments, and other departments and units are not permitted to intervene. Unless they receive permission, they may not go to rural production teams and markets to buy up grain and oil.

The summer grain procurement season is short, strongly seasonal in nature, and much work has to be done. All levels of CCP committees and government must strengthen leadership and give firm attention to the job of procuring and storing grain. They must sensibly organize the transportation of grain and promptly move away local surplus grain, emptying out the storage space so that it can accept new grain. They must set up a network of procurement points in a rational way, train personnel, and do a good job in preparing materials and regulating funds, organize mass sales in a planned way, and prevent problems arising of "difficulties in selling grain." They are to adhere to quality standards, arrive at prices on the basis of quality and neither inflate quality to raise prices nor depreciate quality to depress prices. While doing a good job of grain procurement and storage, they should also give attention to providing for the livelihood of the masses in areas hard hit by disasters.

9432

CSO: 4007/440

## INCREASED SOYBEAN PRODUCTION HIGHLIGHTED

## Summer Soybean Production

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] Every part of a soybean is precious. The root nodules and the leaves replenish the soil's organic material and improve the soil's granular structure; the soybean stalks and soybean cake make fine livestock feed; and the protein content of soybeans is 40 percent, higher than that of any grain crop. The protein content of 1 jin of soybeans is equivalent to that of 4 jin of corn or 5 jin of rice. Development of soybean output bears on the national economy and the people's livelihood, and on growth of agriculture and livestock industry; consequently, it is receiving increasingly serious attention in all countries of the world.

China is the home of the soybean and has several thousand years experience in farming it. In 1953, China held first position in both quantity of soybean output and quantity of soybean exports. However, after 1958, for various reasons tremendous curtailment occurred in the soybean growing area, and total output steadily declined. Despite some revival during the past 2 years, the comeback has been slow bringing about a conspicuous contradiction between supply and demand for soybeans, which hurts improvement in the people's livelihood. Consequently, major efforts to bring about a rise in soybean output is an urgent task confronting us.

The basins of the Huang, Huai, and Hai rivers are one of the major areas of soybean concentration in the country, accounting for about 45 percent of both the growing area and the output of soybeans in the country. This region has very great potential for both increases in the growing area and for improvements in yields per unit of area. Therefore, revival and development of soybean production in the Huang-Huai-Hai basin will mean a great change in the soybean production situation for the country as a whole.

Revival and development of soybean production will require, first of all, solution to two problems. One is the need for a correct understanding, i.e. the way of looking at soybean "low yields." Owing to differences in the physiological conditions for various crops, great differences in size of yields exist. It is indeed true that the yields obtainable from soybeans are somewhat lower than from grain crops; however, their protein content is

several times that of corn, wheat, or rice. Therefore, when looking at the size of yields, we should look at both the quantity and quality. At a recent symposium of soybean production in the Huang-Huai-Hai basin, numerous counties having yields of more than 200 jin per mu, communes and brigades having yields of more than 300 jin per mu, and high yield examples of more than 400 jin were reported. These show that when leaders give serious attention and devote to soybeans the same energy they devote to wheat, rice, corn, and cotton, actively promote effective measures for increasing yields, and give painstaking attention from planting till harvesting, new breakthroughs can be scored in soybean yields. Second is the need to implement policies to assure that current soybean procurement prices remain stable without change. It is also necessary to conscientiously solve problems relating to procurement, transportation, and foreign trade to arouse further peasant enthusiasm for growing soybeans.

Growth of soybean production requires that a certain growing area be guaranteed. Crop patterns require practice of an equitable crop rotation system that both devotes attention to grain production and requires adaptation of general methods to local situations for appropriate expansion of the soybean growing area. The Huang-Huai-Hai river basin grows two crops of soybeans a year, and fields from which wheat has been harvested should be resown to soybeans in summer. Some places can also vigorously promote the intercropping of corn and soybeans during the summer, or use ridges between fields for the growing of soybeans. Yields per unit of area must be increased, efforts put into increasing total output, solution found to the problem of sloppy management of soybean farming, experiences with high yields summarized, and research results promoted for further improvement in scientific farming of soybeans.

#### Summer Soybean Yields

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] In view of the natural climate characteristics and experiences with bumper harvests in areas sown to soybeans during the summer, winning a bumper summer soybean harvest requires taking the following effective technical measures to increase yields.

##### 1. Early Sowing For a Full Stand

The summer soybean growing season is short and is frequently restricted both by the time of harvesting of the previous crop and the time of sowing of the subsequent crop. Consequently, "no interval exists between the harvesting of wheat and the planting of soybeans." Soybeans have to be planted even while the wheat is being harvested in an effort to sow early so as not to miss the farming season.

In order to get a full stand from early sowing, the wheat stubble from the previous crop should be plowed under and sown so as to be able to work the soil to conserve soil moisture and get a full stand of seedlings. Dibbling of seeds may also be promoted as a means of taking advantage of available

soil moisture for early planting, to assure quality of sowing, to attain a full stand of evenly spaced seedlings, and so that fields can be readily cared for. Dibbling can increase yields by 10 percent over drilling of seeds in rows.

## 2. Reasonably Close Planting and Promotion of Hand Thinning of Seedlings

Today problems exist in overly close sowing of soybeans or serious gaps in seedlings. Through the promotion of hand thinning, plants that have been too thickly sown may be used to fill in sparsely planted places to get the right density and to get rid of weeds to help soybean seedling growth. Thinning of seedlings has to be done early and lightly. Generally the time to begin is when the cotyledon appears and the hand is able to take hold of the seedling. Each mu should contain a stand of between 15,000 and 20,000 seedlings.

## 3. Reasonable Fertilization

Because the time for rush harvesting of wheat and rush planting of soybeans is short, and time is required to prepare the land, fertilizing cannot be done, so during the flowering stage of seedlings, quick acting nitrogenous and phosphate fertilizer applications help branching, differentiation of blossom buds, and fruiting of blossoms. Generally between 10 and 20 jin per mu of standard nitrogenous fertilizer should be applied. After the soybean growing season is over, the root nodules gradually deteriorate and absorption of fertilizer by the root system declines, so prompt top dressings of fertilizer should be given. The way to do this is as follows: 1 shijin of urea, 3 jin of calcium supersphosphate in solution, and 0.7 jin of potassium sulfate per mu, or else 0.7 jin per mu of potassium dihydrogen phosphate. Water should be added to make 150 jin and the leaves sprayed toward evening on an overcast day, spraying done once every 7 days for a total of three times for a 10 to 15 percent yield increase.

## 4. Prompt Cultivating and Hoeing of weeds

When soybeans are sown as a crop following wheat, it is the end of the dry season and the beginning of the wet. When seedlings reach a full stand, in conjunction with the final thinning of seedlings, the first cultivating should be done. The second cultivating should be done at the end of June or the beginning of July, and the third cultivating done before the rows grow shut, prompt weeding being done at the same time.

## 5. Prevention and Control of Diseases and Insect Pests

In the Huang-Huai-Hai soybean growing area, the major diseases, insect pests and weeds are grubs, soybean moths, zaoqiaochong [6644 2890 5722], beanstalk flies, beanpod borers, bean eating insects, virus diseases, downy mildew, and soybean Chinese dodder.

Control methods. Before the rows of beans grow shut, a combination of hoeing and spreading of soil treated with pesticide (1.5 jin of a six percent benzene hexachloride powder added to 70 or 80 jin of soil) should prevent



grubs. During the young larva stage of bean moth and diqiaochong, spraying may be done with either dipterex or dichlorvos. For beanstalk flies, spraying of adults with a pesticide should be done. For control of bean eating insects and beanpod borers, poison bait (20 - 40 jin of wheat bran containing 2 - 3 liang of dichlorvos per mu), should be set out on sticks stuck into the ground. When Chinese dodder is found, it should be thoroughly removed, taken out of the field and destroyed.

#### Steady Soybean Output

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] Revival of soybean production in Henan Province has been very rapid during the last 3 years. In the 3 year period from 1979 to 1981, the average annual increase in area sown has been 2,508,000 mu for a gross output increase of 745 million jin. In 1981, soybean yields per unit of area, total output, and commodity rate all set record highs.

Henan Province is one of the major summer soybean growing areas in the country. Following Liberation, soybean output rapidly developed. After 1958, however, as a result of interference from erroneous "leftist" ideology and a one sided emphasis on high yield crops with grain being favored over beans, plus the inequitable price paid for soybeans, both the area planted to soybeans and output gradually declined. Since the Third Plenary Session of the 11th Party Central Committee, Henan Province has made the most of its advantages for growing soybeans, has equitably readjusted crop patterns, and has reinstated the soybean growing area. Soybean production has been revived in Henan largely on the Huang-Huai Plain and in eastern and south central Henan, intermediate and low yield areas where soil fertility is not high. In some intermediate and high yield areas, intercropping of soybeans and corn has been done so that, while assuring a certain total output of grain, the soybean growing area is year by year being reinstated to the 17.9 million mu of 1981. In addition, a responsibility system linking output to calculation of remuneration has been generally instituted for soybean production; technical guidance has been improved; technical training has been launched; and scientific and technical households have been established. The broad masses of peasants have actively added to the numbers of draft animals, done more work, fertilized more, used fine varieties and have planted well and cared for crops painstakingly so that bean output has steadily mounted and many representative examples of high yields have appeared. In 10 communes in Tanghe County, yields have been more than 250 jin per mu. In Xiangcheng County, 700 households had produced yields of more than 400 jin per mu from 2,800 mu of soybeans. In order to make soybean production rise, Henan Province has decided over the next several years to "stabilize the growing area, launch the main attack of higher yields per unit of area, increase total output, and increase the commodity rate."

9432

CSO: 4007/461-A

PRE-HARVEST INSTRUCTIONS GIVEN ON WINTER WHEAT CARE

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 May 82 p 1

[Article: "What Has To Be Done About Late Season Wheatfield Care? Officer in Charge of Agriculture, Animal Husbandry and Fishing Industry Department Answers Reporter's Questions"]

[Text] What is the current situation in winter wheat production? What work has to be done in caring for late season wheatfields in order to obtain a bumper harvest? The newspaper's correspondent visited the Agriculture, Animal Husbandry and Fishery Department to ask these questions, and the officer in charge replied as follows.

After the wheat was planted last fall, because of the drought in the north and waterlogging in the south, low temperatures, and small cumulative temperatures during the winter season, the wheat seedling situation at the onset of winter was everywhere not as good as during the previous year. However, as a result of the further institution of production responsibility systems, last winter and this spring firm attention was given to wheatfield care. Between mid-December and early March, temperatures were higher than in most years; cumulative temperatures were greater than during the same period last year; wheat freeze damage was slight, greening up occurred comparatively early; and the wheat seedlings took a turn for the better. This was manifested in the following ways: colonies had noticeably increased as compared with the onset of winter; the proportion of grades 1 and 2 seedlings rose, and the proportion of grade 3 seedlings fell.

At the present time there are also some disadvantageous factors for the winter wheat, and new problems may appear. One is that the current drought continues to develop. During April little rain fell over most of the northern winter wheat belt, and the threat from drought was very great. Weather forecasts predict a continuance of little rainfall in the north during May, so the job of fighting drought to protect the wheat will be a heavy one. Second, after mid-March many places experienced a springtime return of winter cold. Wheat jointing was delayed, and this led to late heading and a short in-the-milk stage, opening the prospect of damage from hot dry winds. Third, in most areas of the Chang Jiang and Huai basin, too much rain fell during May, and there was too little sunshine, making easy damage from stagnant water and wheat scab. In addition, in most places this year, individual

wheat plant development was poor and ability to withstand damage from disaster weakened, which hurt prospects for increased yields. Fourth, wheat-field care was very uneven from place to place.

Winning of a bumper wheat harvest this year will still be a very arduous task. Given the local wheat growth situation and existing weak links it will be necessary to adapt general methods to local situations, to the seedlings, and to the time in an intensification of late stage wheat care. Northern wheat growing areas will also have to center field care around combat against drought through watering of the wheat. It is necessary to make full use of all water sources, do an effective job of pump well management responsibility systems, increased benefits derived from irrigation, and make sure to water the wheat during the in-the-milk and full ripening stages. Secondly, action will have to be taken so the wheat can withstand hot dry winds. In addition to watering in advance of the hot dry winds, spraying with potassium dihydrogen phosphate can also be done. Not only can potassium dihydrogen phosphate augment the supply of phosphate and potash that the wheat needs for growth during the late stage, but it can also play a role in strengthening the wheat's ability to withstand disaster. Southern wheat growing areas should give attention to cleaning out ditches and draining water to prevent water stagnation. Reports tell of outbreaks of powdery mildew and wheat scab, and army worms may also develop. Disease and insect pest monitoring and reporting work has to be intensified so that timely prevention and control can be done. In short, all prefectures should seize the opportune time to improve their production responsibility systems, to improve their level of scientific care, and use every available means to win a bumper wheat harvest.

9432

CSO: 4007/436

BEIJING

'RENMIN RIBAO' STRESSES WATER-SOIL CONSERVATION

HK271327 Beijing RENMIN RIBAO in Chinese 24 Jul 82 p 2

[Commentator's article: "Resolutely Stop Those Acts That Undermine Water and Soil Conservation"]

[Text] The story of Haojialing production brigade of Zhongyang County in Shanxi Province, which reclaimed wasteland on steep slopes by ruining forests and grasslands is really startling. Zhongyang County was an advanced unit in preventing soil erosion in the mid-1950's. However, today, more than 20 years later, certain brigades of this county have gone so far as to seriously undermine water and soil conservation, and thus have destroyed in 1 day that which was achieved with painstaking efforts over years. The facts of the Haojialing brigade case tell us that we can no longer be indifferent to those practices of destroying vegetation which are occurring in quite a few places at present, gaining a little bit of profit at the expense of upsetting the ecological environment in which mankind is living is in fact a practice of killing the goose that lays the golden eggs, or rather, a practice of drinking poison to quench thirst. We must resolutely take measures to stop these acts that undermine water and soil conservation, and protect and improve the existing vegetation cover.

Destroying vegetation cover will give rise to serious consequences. This is common sense and is known by many people today. More than 100 years ago, Engels clearly pointed out, "In order to get more farmland, the people in Mesopotamia, Greece, Asia Minor and other places felled all forests. Nevertheless, contrary to their expectation, all these places have become barren land today, because they eliminated all the forests there by thereby eliminating all centers which collect and store water." Today, we need a good ecological environment as we are carrying out the construction of the "four modernizations," which includes the modernization of agriculture. What modernization can we expect if we just let the land which breeds every living thing continually suffer destruction?

"The regulations of water and soil conservation work" recently promulgated by the State Council, definitely provided that water and soil conservation must be strengthened, and that denuding forests and reclaiming wasteland on steep slopes by ruining forests and grassland are strictly prohibited. At present,

one of the most important tasks for our leading organs at various levels, in particular the leading cadres in mountainous regions, is to conscientiously implement the "regulations," thoroughly carry out propaganda and education, and enhance the understanding of the vast number of cadres and the masses on the perniciousness of water and soil erosion and the importance of water and soil conservation. Various localities must promptly formulate detailed provisions for implementation and rules and regulations for concerned villages so as to more efficiently protect water and soil conservation facilities from being destroyed. We must adopt correct policies and measures to mobilize the initiative of the vast number of cadres and the masses. All units and individuals taking the initiative in protecting forest vegetation and reasonably utilizing water and soil conservation facilities for developing production should be encouraged and supported, and be rewarded with substantial economic benefit. Those who damage water and soil conservation facilities to seek personal and partial interests must be penalized economically. We must enforce the law and discipline, and seriously deal with those lawless elements who knowingly and seriously undermine water and soil conservation and refuse to mend their ways despite repeated admonition. We must resolutely stop people from continuing to cultivate crops on those steep slopes which are easily susceptible to soil erosion, and order them to replant trees and grass and take the responsibility of taking care of the planted seedlings. We must show to people the fact that seeking profit by undermining water and soil conservation can only be harmful and will never work.

In order to properly promote water and soil conservation, and terminate once and for all those activities of wantonly reclaiming waste land and undermining the ecological environment in mountainous regions, we must keep on reforming the agricultural economic structure in these regions. We must proceed from the overall situation, rationally arrange grain production and avoid blind development. In the past, mountainous regions used to export mountain products and import grains from the plains. Today, this historical barter relationship no longer exists in quite a few places. At present, the people in many mountainous regions have to solve the problem of grain supply by themselves. They plant grain crops on the hills. This causes serious water and soil erosion on some hillsides with steep slopes. However, at the same time, more farmland is used to cultivate industrial crops and the area of grain fields is constantly reduced in some plain regions which are suitable for grain planting. As grain producing areas fail to supply more grain, mountainous regions which are unsuitable for grain planting cannot help but reclaim waste-land and produce grain themselves. We must actively change this unreasonable situation step by step and in the light of the overall situation, give full play to the strong points of mountainous regions and grain-producing areas, conscientiously develop agriculture and a diversified economy according to the local conditions, and thus shape a healthy cycle of production and ecology.

CSO: 4007/490

## NEED FOR IMPROVED HYBRID RICE VARIETIES UNDERSCORED

Fuzhou FUJIAN RIBAO in Chinese 2 May 82 p 2

[Article by Li Senhui [2621 2773 1920], Rice, Wheat and Barley Institute, Provincial Academy of Agricultural Sciences: "Improve Paddy Rice Breeding Work"]

[Text] Fujian Province is facing a problem of increasing grain output with all possible speed. There are two ways of solving this problem as follows: One is to expand the growing area, and the other is to increase yields per unit of area. The province's population is large relative to the amount of land requiring that the land be extremely cherished and that every available means be used to guarantee the area planted to grain. However, of even greater importance in increasing grain output is efforts to increase yields per unit of area. For improvement of rice output from the area being farmed, one good method is selection of fine varieties.

Since founding of the Chinese People's Republic, Fujian Province has done no small amount of work in the breeding and promotion of fine varieties. Rice yields per unit of area have risen from 196 jin in 1949 to 537 jin in 1980, a remarkable result. But how can we continue to hold fast to this crux of breeding and promoting fine varieties in the future?

One way is to define the direction of major attack. Today the peasants urgently demand that we breed high yield disease resistant varieties. Right now the greatest problem with the province's rice varieties is poor resistance to disease, which damages increases in yields. Rice blast and bacterial blight are great enemies of rice production. Last year damage to the early crop caused by rice blast was extremely serious, and most red strain varieties are particularly susceptible to disease. This makes the peasants lose confidence, and this raises an extremely grave problem for our scientists and technicians, namely how to breed with all possible speed new high yield disease resistant varieties. Some places have already bred new varieties that offer hope, and this is very heartening. But these new varieties will certainly have to undergo strict evaluation, and cannot be blindly promoted for cultivation. Some places are currently completely down on red strain varieties and tend toward indiscriminate use of unevaluated new varieties. Every jurisdiction should be alert to this.

Second, the situation of careless production of hybrid seeds has to be corrected. During the past year or two, many cadres and commune members have reported that "hybrid rice is mongrelized and no longer fine." Why is this? In terms of the hybrids per se, problems exist in the selection and breeding of fine combinations, but the fundamental reason lies in careless production of hybrid rice seeds. Right now in many communes and brigades, seed production is done by individual households or is scattered throughout a production team. Because both seed production techniques and conditions for separation are poor, the seeds produced are not pure, so the situation of "mongrelized and not fine" has become serious. It is recommended that "counties should breed and counties should develop," or else "counties should breed and communes develop" to assure quality and overcome the problem of "mongrelized and not fine." In addition, careful attention should be given this work.

Third is the need to make the most of existing technical forces to organize a concerted attack. The province currently has quite a number of units and people able to do the scientific and technical work of developing seeds. However, these personnel are widely scattered; additionally equipment is poor and funds are short making it impossible to meet the needs of research and production. High level leadership units should strengthen leadership to organize these forces to conduct a concerted attack, to solve some real problems, and to change the former backward situation of engaging in seed production with "a hoe in one hand and a basket of manure on a shoulder pole."

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CSO: 4007/446

## INCREASING RICE YIELDS IN LOW, INTERMEDIATE AREAS VIEWED

Fuzhou FUJIAN RIBAO in Chinese 2 May 82 p 2

[Article by Lu Haoran [4151 3185 3544], professor, Fujian Academy of Agricultural Sciences: "Exploit Production Potential of Intermediate and Low Yield Areas"]

[Text] What should the focus of Fujian Province's grain production be? I feel that exploitation of intermediate and low yield area's production potential fits the principle of small investment, quick results, and high benefits. The province's intermediate and low yield areas account for more than two-thirds the cultivated land area. Investment in areas with yields of 400 or 500 jin or 600 or 700 jin per mu holds an increased yield potential, a more rapid results potential, and a higher benefits potential than investment in areas that exceed "double goals" or double 1,000 jin in a year. Take fertilizer as an example. Fertilizer utilization rate and benefits in increased output per jin of fertilizer decrease as the amount of fertilizer increases. If each jin of ammonium sulfate can increase paddy yields by about 5 jin on an infertile field, on a fertile field it will increase yields by only 2 or 3 jin, a difference of almost 100 percent. This becomes a matter of "answering a genuine need," or "making perfection more perfect." Of course, what constitutes high, intermediate, or low yields is relative and changes as a result of development. High yields can always become higher yields. Use of limited financial, material, and human resources to get optimum economic benefits is an extremely important strategic matter.

Attention to intermediate and low yield area production requires adaptation of general methods to local situations and the promotion of effective technical measures, including traditional practical experiences and both domestic and foreign scientific achievements during the past several decades. A few examples are provided as follows: (1) Under guidance of state plan, adaptation of general methods to specific situations for a gradual restructuring of the agricultural structure of farming, forestry, livestock raising, sideline occupations, and the fishing industry, equitable crop patterns, and sensible matching of varieties. For example, when rice is grown in the deep and sodden fields at the entrance to mountain areas, it is prone to remain in the vegetative stage and to lodging; output is not high and consideration should be given to converting the fields to fish ponds with concurrent growing of lotus, duckweed, water cabbage, or such livestock



feeds. Double crops of rice in high mountain regions produce inconsistently high yields, and it might be better to change to the growing of a single crop of intermediate rice (or hybrid rice) plus one crop of potatoes. (2) Farmland capital construction centering on harnessing of water and soil improvement. Low yield fields produce low yields because they are arid, waterlogged, cold, leached, sodden, infertile, clayey, sandy, or acidic, so the cure should fit the ailment, and disadvantageous factors should be eliminated to improve agricultural production conditions. But there should be no practice of formalism and no making of so-called "small, artificial plains." Genuine effectiveness should be the goal in a combination of the long term and the short term, with medium and small projects predominating, and with self-reliance predominating for equitable use and expansion of the investment of peasant labor. (3) A combination of fine varieties and fine methods so that fine methods will translate into reality the possibilities for increased yields of fine varieties. One does not necessarily have to promote fertilizer tolerant varieties in intermediate and low yield areas, but rather one should promote varieties of particularly wide adaptability that economize on use of fertilizer. (4) Improvement in distribution and use of fertilizer. In low yield and grain producing areas, additional care should be given fertilizer distribution because high yield areas or economic crop areas get fairly large bonus sales of chemical fertilizer. In mountain areas, the lack of phosphate and sulfur [sic] is fairly serious and soils are acidic for the most part. More superphosphate, potassium sulfate, gypsum, lime nitrogen, and lime should be distributed. In applying them, the past practice should be changed whereby much was applied early in the season and little applied late in the season, and whereby much was applied to nearby fertile fields and little applied to distant infertile fields. Use of farmyard manure on infertile fields brings fairly great benefits. Delayed action phosphate fertilizer is used on pulse crops and green manure crops, the phosphate increasing the action of the nitrogen; and quick-acting phosphate fertilizer is used on seedling fields or around seedling roots. It is recommended that ammonium carbonate, which readily volatilizes, be applied deeply in pellet form. In short, fertilizer should be distributed and applied on the basis of results of soil surveys, scientific testing, and production practice, and in accordance with the land and crops on which it is to be used so that limited fertilizer will bring greater benefits in increased output. (5) Use of comprehensive measures to prevent diseases, insect pests, and weed pests though use of disease and insect pest resistant varieties and wetland and dry land crop rotation. (6) In mountain areas where there is much land relative to population, and where a shortage of workforces exist for summer harvesting and planting, special attention should be given to improving the labor productivity rate. Priorities should be established in mountain regions for places where farm machines for plowing, planting, harvesting, hauling, and drying will be promoted.

Serious attention should go to study of agricultural science and technology. One of the main reasons why many intermediate and low yield crop production area outputs have fluctuated without rising has been careless farming and backward techniques, so study of agricultural science should be made a matter of importance. Forces should be organized for a concerted attack on key problems requiring scientific study to produce results rapidly in order further to develop agricultural production in high, intermediate, and low yield areas.

## PROVINCIAL STATE FARMS' 1980 PROFITS REVEALED

Fuzhou FUJIAN RIBAO in Chinese 21 May 82 p 1

[Article: "Fujian Province's State Farms Profited Much Last Year. Economic Benefits Continued To Increase This Year. Early Quarter Production Situation Good"]

[Text] Last year the state farms in Fujian Province racked up profits once again on top of the profits of the 2 previous years. Profits amounted to 8.17 million yuan, a 23 percent increase over the previous year, making last year's profits the highest of the 3 years. This situation was presented by the recently convened state farm work conference.

Last year Fujian Province's state farms scored remarkable economic results. Except for a slight reduction of grain output occasioned by a downscaling of acreage and damage from natural calamities, economic crops, the livestock industry, and industrial sideline occupations all saw remarkable increases in output and earnings. The number of profit making enterprises increased from 86 in 1980 to 95 in 1981. This was 75 percent of the total number of enterprises. Losing enterprises fell by 10 from 1980. Tax revenues surrendered to the state in 1981 amounted to 6.85 million yuan, making it an all-time high year. All enterprises retained some award funds and increased employees incomes out of profits. They also withheld some funds to run employee dormitories, hospitals, schools, and such welfare endeavors. The material and cultural livelihoods of farm employees saw obvious improvement.

Provincial State Farm and Land Reclamation Bureau leadership comrades said, in the course of giving a briefing on experiences in scoring achievements, that prominence was given to two tasks last year. One was the stabilization and perfection of production responsibility systems; the other was readjustment of the internal structure of enterprises. While stabilizing grain production, they strove to develop economic diversification. Right now the production situation in state farms throughout the province is very good. In the growing of early rice, peanuts, soybeans and tobacco, plans handed down by the province have been fulfilled.

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CSO: 4007/440

FUJIAN

BRIEFS

DATIAN COUNTY SOYBEAN PRODUCTION--Fujian's Datian County expanded the sowing of soybeans with good results this spring. Its 30,000 mu of soybeans yielded more than 4.6 million jin. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 7 Jul 82 OW]

CSO: 4007/490

HENAN

BRIEFS

WHEAT OUTPUT, PROCUREMENT--Overcoming a severe natural disaster unusual since the establishment of the PRC, Henan Province reaped a bumper wheat harvest this year, with a total output reaching 22.7 billion jin. Compared to the bumper harvest year of 1981, this is an increase of 470 million jin, a historical record once again. By 8 July, Henan Province had procured 3.84 billion jin of wheat, and overfulfilled the summer grain procurement quota by 400 million jin. [Beijing RENMIN RIBAO in Chinese 13 Jul 82 p 1]

CSO: 4007/491

## ISSUANCE OF WATER-USE PERMITS BOOSTS AQUATIC PRODUCTION

## Huaiyin Prefecture Leads Way

Beijing RENMIN RIBAO in Chinese 11 May 82 p 2

[Article: "Huaiyin Prefecture Begins Work of Issuing Water-Use Permits"]

[Text] Huaiyin Prefecture in Jiangsu Province has begun the work of issuing permits for the use of collective surface water in rural people's communes. On the basis of delimiting the water belonging to the three levels--commune, production brigade, and production team--it has transferred water use rights from the collective to specialized brigades, specialized teams, specialized households, or individual commune members, thereby stimulating the enthusiasm for breeding fish on the part of the collective and the individual commune members.

Located on the lower reaches of the Huaihe River, Huaiyin Prefecture has a vast amount of surface water; and there are 1.6 million mu of water in which fish can be bred and aquatic economic crops grown. In the past, the rights to use some of the water were not clear, and the water resources were not fully used. In 1981, only a little over 800,000 mu were used for breeding and growing throughout the prefecture. After there was established in agriculture the responsibility system of contracts and linking output to remuneration and there was obtained a fairly large development in production, the agricultural problem of aquatic products backwardness, which created uncertainty about water use rights, became more prominent. Last year, the Nanguang-dang Commune in Shuyang County, by improving its management and administration of water, effected a big change in its situation. The commune delimited its over 1,700 mu of water surface as follows: over 80 mu to be managed by the commune, over 200 mu to be managed by production brigades, over 1,300 mu to be managed by production teams, and 78 mu of odd stretches of water surface to be privately owned and managed by commune member households. Afterward, by means of contracting out collectively managed water, the commune further delimited the use rights to specialized brigades, specialized teams, and specialized households, and this fundamentally changed the past situation in which "the collective had water but did not use it for breeding, and the masses thought of breeding but had no water." In this one year of breeding fish on ponds on the 1,700 mu of water surface, the total output of fresh fish was 350,000 jin, which brought in over 240,000 yuan of income. After summing up

the experiences of Nanguangdong Commune, the Huaiyin Prefectural CCP Committee decided to begin the work of issuing water surface use permits throughout the prefecture.

First the party committee carried out experiments in this regard at Xuyi County. After gaining experience from the experiments, the committee started this work at the beginning of this year in 13 counties and cities. The main method was to carry out investigations of water surface resources, measure the water surface, confirm the limits, and, based on the history of distribution and the present situation, suit measures to local conditions and determine what water surface belonged to each of the three levels--production team, production brigade, and commune--and then, one by one, registered these limits in official books. Under the premise of the water surface proprietary rights generally not being changed, the committee gave out contracts for the use of collectively managed surface water to specialized brigades, specialized teams, and specialized households. After determining the profit distribution, the county people's government issues surface water-use permits, so that the water use rights will certainly not be changed for several years. The profits on water surface turned over by the collective for the commune to manage for their own personal needs go to the individual commune members; with water-use permits being issued by the county people's government to commune members, the proprietary rights of commune members households will not be changed for a long period of time.

In order to guarantee that the commune members, after being given the water-use permits, will effectively organize production, Huaiyin Prefecture stipulated that, after being issued the permits, the normal production activities and the proper economic interests of the users are to be protected by state laws, which no one can violate. Under the guidance of state and collective plans, the users have the right to manage the water on their own initiative and have the right to carry out some capital construction beneficial to the development of aquatic production, and to engage in planting, breeding, and other overall management activities. The rural regulations and civil agreements drawn up under the collective responsibility system educate the commune members not to steal, blast, or poison fish, and do not permit arbitrary equalitarianism and indiscriminate transfer of the aquatic products of fish-breeding households, thereby protecting the economic interests of the commune members. However, the water users may not transfer their rights, let out the water, buy or sell their rights, or fill up the water with earth; and water in which there has been no breeding or planting for the period of 1 year will revert back to the collective and other arrangements will be made for it.

According to statistics, permits have now been issued for the right to use over 280,000 mu of water in the prefecture, accounting for about 35 percent of the water for which permits should be issued; the counties of Xuyi, Siyang, Suqian, and Hongze, which made fairly rapid progress, have already finished the work of issuing water-use rights permits; and commune members of over 20,000 households, specialized teams, and group leaders have water-use permits affixed with the county government stamp.

As of the first part of April, throughout the prefecture spring breeding of fish was being done on 400,000 mu, an 11 percent increase over that of the corresponding period of last year; 150 million fish of various kinds were being bred, a 25 percent increase over that of the corresponding period of last year; and aquatic economic crops such as reeds, water chestnuts, lotus roots, and Gorgan fruit had been planted or sown on over 100,000 mu, an increase of 71 percent over that of the corresponding period of last year.

#### Short Commentary

Beijing RENMIN RIBAO in Chinese 11 May 82 p 1

[Article: "Important Measure for Developing Freshwater Breeding Enterprises"]

[Text] In Huaiyin Prefecture, Jiangsu Province, the issuing of fixed rights permits for use of the collective's water surface has aroused the enthusiasm of the collective and the commune members. Throughout the prefecture in spring, the number of fish bred rose 11 percent over that of the corresponding period of last year, and the acreage on which various aquatic economic crops were planted and sown rose by 71 percent over that of last year. This was a good experience in accelerating the development of freshwater breeding enterprises.

Currently, the water surface in some localities in the rural areas cannot be fully utilized and the development of freshwater breeding is not fast. The main reason for this is that the right to use the water surface is not clear. "Everybody tries to obtain water surface but nobody uses it for breeding." In places where the production responsibility system has not been put into effect, "the collective has water surface but does not release it for breeding, and the masses think of breeding but do not have the water surface for it"; and in some places where the production responsibility system has been established, because the time limit for using the water surface has not been made clear, the masses worry that they will not be able to use it for breeding for a long period of time and thus are unwilling to put much work and money into the breeding, so that the potential of the water resources cannot be fully brought out. On the basis of delimiting the water jurisdiction of communes, production brigades, and production teams, Huaiyin Prefecture did a good job of issuing water rights permits, assigning water rights for fairly long periods of time to specialized brigades, specialized teams, specialized households, and individual commune members, thereby stabilizing both the policy and public feeling. This is an important premise for arousing the enthusiasm of communes and production teams and of individual commune members, for exploiting and using water resources, and for developing aquatic production. By getting this good a grip on breeding, the masses' enthusiasm is aroused and freshwater breeding production can be developed fairly quickly. With regard to investment in aquatic production and the popularization of the science and technology of aquatic production, its effect is to get twice the result with half the effort. Developing aquatic production, as is the case with engaging in other enterprises, cannot be separated from the masses' enthusiasm. Huaiyin Prefecture's issuing of water surface rights permits

means that the water users have the right to act on their own initiative in managing the water, so that the comprehensive management of the planting and breeding in the water can be carried out and so that, proceeding from the long-range goal of management, capital construction of the water surface can be carried out; the water users get more profit from putting out more work, the economic results are protected by law, and the income of the commune and the production team is increased, thereby organically combining the unified management of the collective with the independent management of the commune members.

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CSO: 4007/417



## TRADITIONAL SKILLS USED TO BOOST SOIL PRODUCTIVITY

Beijing RENMIN RIBAO in Chinese 6 May 82 p 1

[Article: "Improving Soil Fertility and Lowering Agricultural Costs"]

[Text] Since last winter, Jiangsu Province's Suzhou Prefecture, which possesses rich traditional agricultural skills and a fairly high level of farming, has made a point of restoring and developing traditional agricultural skills. A set of measures for output increases, which had been formed over many years in the past, have begun to be applied fairly well at each production link. Last winter, the acreage of wheat, barley, and oats throughout the prefecture under irrigation by water, river, and silt reached over 85 percent; this year there occurred a high tide of organic manure collection and fertilizer making that had not been seen for several years, and by the end of March on every mu of paddy rice there were 62 dan of accumulated grassy pond silt.

Suzhou Prefecture is one of China's key commodity grain bases. The peasants there have very rich experience in effectively utilizing land productivity and natural conditions. The output of grain and other agricultural crops is relatively high. In the past 2 years, some people thought that to modernize agriculture it was not necessary to bear hardships and stand hard work and that crop cultivation could be done by "applying chemical fertilizer and irrigating with ammonia water." Some traditional agricultural skills and production experiences were gradually neglected. In some places, the amount of organic fertilizer used became less and less, the amount of chemical fertilizer applied grew and grew, and agricultural costs rose higher and higher.

The Suzhou Prefecture CCP Committee and the prefecture's administrative office concluded that if this year's grain production was to be raised, there certainly must be displayed a spirit of hard struggle, the traditional experiences accumulated for a long time by the broad masses of peasants must be applied, costs must be lowered, results must be improved, and organic agriculture must be restored and developed. The prefecture vigorously popularized the experience of Taoyuan Commune, Wujiang County, in the mutual promotion of grain, silkworm, and animal husbandry undertakings, thereby improving people's knowledge of organic agriculture. For many years, Taoyuan Commune has raised a large number of pigs, sheep, and rabbits, has collected

grassy pond silt, has returned stalks to fields, has put aquatic plants in suitable places for growth, has transported refuse from cities and towns and mixed it with fertilizer, and has applied relatively large amounts of organic fertilizer to every crop on every mu, thereby nurturing and fertilizing the land. Although the commune suffered natural disasters in 1981, its grain output still rose. By contrast, in some places much chemical fertilizer is used, the amount of organic fertilizer has decreased, land productivity has fallen, the resistance power of crops has weakened, and plant diseases and insect pests have become a serious problem, thereby adversely affecting output. This contrast has heightened people's understanding.

So that the work will be done well, the Suzhou Prefecture CCP Committee and the prefecture's administrative office have taken practical measures at every stage of production. For example, in February of this year, an on-the-spot meeting on collecting manure and making fertilizer was held in Fengqiao Commune, Wuxian County, which mobilized the great number of cadres and masses to effect an upsurge in collecting manure and making fertilizer. The administrative office designated March as a month for collecting manure and making fertilizer. Of the 53,000 production teams in the prefecture, every day over 48,000 teams are engaged in manure collecting and every day, at a steady rate, about 50,000 manure-collecting boats set out. In this way, the rate of manure collection was greatly accelerated, and everywhere on the prefecture's verdant fields there is grassy pond silt. There are fairly many cities and towns within the boundaries of Suzhou Prefecture, and this year the energy displayed by peasants in going into cities and towns to collect refuse to be mixed with fertilizer has been remarkable.

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## IMPROVEMENT OF SEED PURIFICATION STANDARDS DISCUSSED

Nanjing XINHUA RIBAO in Chinese 20 May 82 p 1

[Article: "Strive To Improve Purification Standards for Field Crop Seeds"]

[Text] Purification of field crop seeds is a basic task in seed work that has an extremely great bearing on development of agricultural production. Since the Third Plenary Session [of the 11th Party Central Committee], throughout the province fairly serious attention has been given seed purification. A lot of work has been done and definite achievements have been made. Throughout the province the fine variety area of the eight major crops has expanded rapidly for a virtual growing of little but fine varieties. Simplification of crop varieties has also been fairly evident, and extent of purification has also increased. Nevertheless, substantial unevenness exists in seed purification standards. For some crops the fine variety area is small and extent of purification is not high. In some places there are many varieties of the same crop and seeds have become mongrelized, the mongrelization now reaching serious proportions. In other places management of varieties and construction of seed bases require further improvement. The existence of these problems attests that the present state of seed work does not meet current requirements for the development of agricultural production, and that a good job of seed purification must be done at once.

Development of a socialist economy requires concern for economic benefits. In order to increase economic benefits from seed work, a good job of seed purification has to be done. Jiangsu Province's cultivated land area is small and grain, cotton, and edible oil output quotas are heavy. To insure a certain speed of agricultural growth, one cannot pin one's hopes on expansion of the cultivated area. Most important is reliance on increases in yields per unit of area, and increase in yields per unit of area requires not only devoting efforts to the culturing of crops, building fertilizer capacity, and improving the soil's physical and chemical properties, but even more important is to do something more about seeds. If we carry out a general purification and rejuvenation of grain, cotton, and oil bearing crop seeds, and replace field seed plans, even figuring on the basis of a fairly low increase in yields, the province's grain output could be increased by 2 billion jin, and economic income increased by 200 million yuan. Ginned cotton output could be increased by more than 900,000 dan for an increase in earnings of 150 million yuan; and oil bearing crops could be increased by 550,000 dan for an increase in

earnings of almost 30 million yuan. These are output and earnings increases figured solely on the basis of increased seed purity. Were output increases from fine varieties factored in, even more impressive figures would result.

Enthusiasm for scientific farming is very high in all communes and brigades and among the peasants in the farflung rural villages in order to increase output and earnings, and the demand for fine varieties is extremely urgent. They want not only new varieties with high yields, fine quality, early ripening capabilities, strong resistance, wide adaptability, and all around fine properties, but they also demand seeds with a high degree of purity and high quality. Consequently, it is extremely important that we summarize experiences, absorb past lessons, and place on the daily agendas of leaders concerned at all levels the job of purifying fine variety field seeds.

Seed work has many aspects, as for example management of varieties and regionalization of distribution, purification and rejuvenation and replacement at fixed times; building of seed bases and carrying on specialized production; and organization of the production, state procurement, and marketing of fine varieties, etc. However, improvement of fine variety purification standards for field crop seeds is a key problem in seed work. This is the bottom line in judging and checking on all kinds of seed work. If this key problem is to be taken firmly in hand and a firm stand taken on this bottom line, the thinking of some comrades that values doing things but slights breeding, that values introducing things but slights rejuvenation, that values using them but slights caring for them will have to be overcome. Seed units at all levels should centrally manage the introduction of new varieties. In the production of new varieties, they should follow a sequence of "experiments at two levels; prefecture examination; and centralized examination and verification, assigning a name, and promotion by the province," with planting being done in designated spheres. Varieties that have not undergone testing should not be presented for examination, and varieties that have not been examined and approved or that have undergone examination and been found wanting may not be promoted at will by any unit or individual. When varieties are introduced, scientificness is desired with less blindness. Replacement of varieties requires positiveness, prudence, thoroughness, and precision. For planned propagation and planned replacement, both fine varieties and fine methods should be promoted together so as to avoid large ups and downs and to guard against blindly seeking after something new.

Sensible simplification of varieties is a major step in bringing about seed purification. Therefore from the foundation of a variety survey and in combination with production requirements of all jurisdictions, a comprehensive inventorying and appraisal should be conducted to decide which varieties should be developed and promoted, which ones may be used transitionally, and which ones should be rejected. In simplifying varieties, peasant varieties should be identified and matching of varieties should be rational to preserve a relative stability.

Impure seeds of fine varieties cannot produce their full potential for increased yields. Therefore, comprehensive launching of purification and rejuvenation work is an effective measure for insuring the variety

characteristics of fine varieties, for preventing mongrelization and deterioration, and for lengthening the number of years a fine variety may be used. Purification and rejuvenation work requires a division of labor. Purification of hybrid parent pairs is taken care of by seed departments at the provincial and prefecture levels. Purification of conventional varieties is done mostly by counties, by state stock (or fine) variety farms, and by county agricultural institutes. Production units having requisite conditions may also be selected to establish bases by special arrangements for purification and rejuvenation. Many years of experience show that when individual communes and brigades engage in purification and rejuvenation, setting up their own small but complete systems, not only is there a duplication of work that produces a waste of manpower, material, and financial resources, but as a result of problems in technical standards and management, quality of purification and rejuvenation is also likely to be impaired. Vigorous launching of mass selection and withdrawal of seeds is also an effective way to prevent mongrelization and deterioration of seeds. All jurisdictions should use various ways to mobilize the masses to select and withdraw seeds in each crop selection season. Places practicing the contracting of work tasks or production to individual households are to assign these seed selection tasks to households. In addition, there is no need to set up fixed seed bases or to engage in specialized seed production. Strict attention to all around quality management, vigorous promotion of machine selection of seeds, genuine strengthening of seed inspection and quarantine work so that every link from seed production to procurement, to processing, to transportation, to packaging, to storage, and on to marketing meets set quality standards will insure seed purity.

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CSO: 4007/440

JIANGSU

BRIEFS

SHUYANG COUNTY SUMMER HARVEST--Shuyang County in Jiangsu Province has achieved a bumper harvest of summer-ripening crops. The output of wheat, barley and naked barley totals more than 390 million jin, topping last year's record by some 140 million jin. The production of rapeseed was 10 million jin, double last year's output. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 2 Jul 82 OW]

FUNING COUNTY WHEAT PRODUCTION--Peasants in Jiangsu's Funing County reaped a bumper wheat harvest this summer with total output increasing by some 60 million jin over that of last year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 5 Jul 82 OW]

SUMMER CROPS--Bumper harvests of summer crops have been reported in various localities of Jiangsu Province. Output of over 100 million jin of summer grain crops has been reported in Shuyang, Yixing and Wujin counties. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 6 Jul 82 OW]

CSO: 4007/490

SEED COMPANIES IN IRRIGATION DISTRICT IMPROVE WORK

Beijing RENMIN RIBAO in Chinese 8 May 82 p 1

[Article: "Counties in Ningxia's Irrigation District Vigorously Supply Seeds for Spring Sowing"]

[Text] The seed companies in 11 counties in Ningxia's irrigation district have vigorously improved seed supply work, and this year there has appeared a gratifying scene with regard to spring-sown crop seeds in which the seeds have been marketed quickly and their sales volume has grown. Now, of the seeds of improved varieties of spring wheat that the seed companies have in stock to satisfy needs, 7.4 million jin have been sold, over 10 percent of the wheat seeds required to be sold in the irrigation area.

This year the seed companies have set up additional seed supply points and seed distribution points in remote communes and production teams and in communes, production teams, and market towns where the population is concentrated, in order to supply close at hand improved seed varieties to the peasants.

In the past, before the peasants bought seeds they had to first go to grain depots and buy grain and then, with evidence of their grain purchase, they could buy seeds from seed companies.

This involved many procedures and was inconvenient. This year the system has been changed to one in which the masses directly exchange their grain for improved seed varieties and the price difference is offset by the equivalent in grain, thereby simplifying procedures. At the same time, in order to deal with the special feature that, after the responsibility system is put into effect, the peasant households purchase a smaller amount of seeds and sell more things at retail, with the concurrence of grain departments, a portion of the seeds is sold at a negotiated price.

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CSO: 4007/417

NEW GRAIN MANAGEMENT SYSTEM ANALYZED

Xian SHAANXI RIBAO in Chinese 9 May 82 p 1

[Article: "Major Restructuring of Grain Management System. Beginning With This Year's Summer Harvest All Jurisdictions in the Province Will Begin a New Method Guaranteed for 3 years of Assignment of Sole Responsibility for State Grain Procurement, Marketing, Allocations and Transfers"]

[Text] Beginning with this summer's harvest, Shaanxi Province will institute assignment of sole responsibility for state grain procurement, marketing, allocations and transfers in a new method guaranteed for 3 years. The provincial government has asked all jurisdictions to take firmly in hand the implementation of this task, making sure that prior to the summer harvest assignment of sole responsibility for state grain procurement quotas is gradually implemented in production teams, work teams, and commune member households.

This major restructuring of the grain management system was decided on by the State Council. As compared with the former state procurement base figures, which were guaranteed to remain unchanged for several years, and procurement in excess of quotas guaranteed for a single year, this method is more advantageous in bringing into play both central government and local government initiative, in promoting and enlivening grain dealings, and in improving administration and management of grain enterprises for greater economic benefits. It is also advantageous in stabilizing peasant burdens, and is both suited to and advances reform of the agricultural structure. Particularly, once assignment of responsibility for state grain procurement quotas has been instituted in production teams and commune member households and linked to assignment of responsibility for output, not only will the peasant masses know how much grain they are responsible for producing in any given year, but they will also know how much grain they will be responsible for surrendering to the state in any given year plus 2 years thereafter to bring about "knowing 3 years in advance" state grain procurement quotas.

In accordance with the management method approved by the State Council, figures for assignment of grain responsibilities in all jurisdictions will be based on actual state grain procurement, marketing, transfers and allocations during the previous several years in combination with changes during the next 3 years in the development of grain production, state procurement and marketing



as determined through discussion and verification. Figures for assignment of responsibility for state procurement include state procurement base figures and excess procurement quotas. When production teams sign contract agreements with commune members, they should include within the scope of agreements output, variety, and state procurement base figures, and excess procurement quotas. Figures for assignment of marketing responsibilities include non-agricultural and agricultural marketing as well as grain formerly expended for special purposes by provinces. Figures for assignment of responsibility for inbound grain include regular inbound movement and grain expended by provinces for special purposes. Figures for assignment of responsibility for outbound grain are outbound figures from which grain for special use has been deducted. During the period of assigned responsibility, all grain remaining as a result of much procurement and fewer sales is to revert to each jurisdiction for its disposition. Should natural disasters or other reasons result in a grain deficit, solution will also be up to local jurisdictions themselves. Years of major calamities requiring provincial transfers of grain are to be subsequently repaid in full.

This year will be the first one for institution of assignment of grain responsibility. How equitably all criteria are implemented will be important for fulfillment of assigned grain quotas for the next several years and for a balance between supply and demand of grain in Shaanxi Province. Now the summer harvest is at hand, and the provincial government asks that all jurisdictions actively and painstakingly take firmly in hand the assignment of responsibility for grain quotas, particularly verification of state procurement quotas. With this as a starting point, after several years effort, Shaanxi Province's grain commodity rate will see fairly rapid increase to make a greater contribution to the building of the four modernizations.

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CSO: 4007/438

SHAANXI

BRIEFS

SUMMER GRAIN PROCUREMENT--Weinan Prefecture, a major summer grain-producing area in Shaanxi Province, has up to 7 July procured 413 million jin of summer grain, overfulfilling 1982's summer grain procurement quota. The procurement work took only 20 days. [Xian SHAANXI RIBAO in Chinese 8 Jul 82 p 1]

CSO: 4007/490

# TECHNIQUES FOR FINDING, TESTING, USING DESALINIZED GROUND WATER EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 1982 p 2

[Article by Soil Fertility Institute, Shandong Provincial Academy of Agricultural Sciences: "Need To Exploit Shallow Depth Desalinized Ground Water"]

[Text] By shallow depth desalinized ground water is meant the layer of fresh water with low mineralization at a general 2 to 4 grams per liter found in a "desalinized layer" atop the highly mineralized underground saline water belt in alkaline-saline areas along the seacoast. By and large natural precipitation and human diversion of water for irrigation causes the highly mineralized water atop the highly mineralized underground saline water belt to undergo change and differentiation, gradually becoming fresh water, which can be substantially used in agriculture or as potable water for people and animals. This is a source of fresh water in saline-alkaline coastal areas that is of great utility.

The major means of locating freshwater and a shallow depth underground are two, as follow: One is use of the geobotany of the landscape (i.e., the distribution of plants on the surface) to analyze and determine the existence and extent of distribution of underground freshwater in saline-alkaline areas. For example, in areas close to the sea in Shandong Province, the ecological system is composed of plants that grow in saline soil, chiefly Huangxu [7806 3291], Suaeda maritima, and Chinese tamarisk, showing that the soil has a salt content above 0.5 percent and that a "freshwater layer" of fairly low mineralization has not yet formed atop the underground salty water belt. On the delta where the Huang He enters the sea, plants are mostly those of a natural oases ecological system, largely plants such as cogongrass [Imperata cylindrica], small reeds, and natural willow forests which show the degree of soil salinization and alkalinization to be slight and that rather good "desalinated water" water exists below ground. In state farm and land reclamation areas, the geobotanical landscape is largely a farm; and plant ecological system composed of various kinds of farm crops. This shows a soil desalinization below 0.3 percent, and that atop the underground saline water belt a fairly good "freshwater layer" has formed. The geobotanical landscape is the basis for seeking underground freshwater at a shallow depth in a macroregion. The second means is comprehensive analysis and judgment based on topography, landforms, and soil texture. Generally speaking, on both

sides of running streams, in old riverbeds, in lowlying land, and in agricultural irrigation zones, desalinization has occurred, the freshwater at a shallow depth being relatively concentrated and its degree of purity being rather good. In sections having fairly clayey soil, the extent of desalinization of underground desalinized water at a shallow depth is better than in areas of lightly textured medium soils and pulverized gravel soils. Results of prospecting done in clayey soil and pulverized gravel soil 500 meters distant from each other showed that in the clayey soil sections, the extent of mineralization of underground freshwater at shallow depth was 0.7 grams per liter, while the extent of mineralization of underground freshwater at shallow depth in pulverized gravel sections was 5 grams per liter. In searching for desalinized underground water at a shallow depth within a small area, it is necessary to watch distribution of soils of different textures.

Desalinated underground freshwater at shallow depth is characterized in the following ways: wide distribution in geographic space, distribution not very thick in vertical space, and buried at a shallow depth beneath the surface. In exploiting underground freshwater at a shallow depth, it is necessary, first of all, to determine the point at which the surface of the "freshwater layer" meets the surface of the excessively saline water layer. After taking water samples for testing to determine whether water quality is suitable for exploitation, hydraulic wells are sunk into the "freshwater layer" above the intersecting surface, and the water is then raised. When installing hydraulic pumps, one should be careful not to push pipes through the "freshwater layer" so as not to raise saline water to the surface. Three or four hydraulic wells per mu of farmland may be installed, and enough water may be raised from them daily to provide soil moisture to about 1 mu of land.

Before underground desalinized water at a shallow depth may be exploited for use, it must be evaluated for quality. Evaluation usually consists only of measuring salt content, with composition of the salt being measured when necessary. If the magnesium ion content of the water is high, it may cause diarrhea and should not be used as drinking water by people or livestock. Water quality standards for water used to irrigate plants usually require a salt content of less than 2 grams per liter. When fighting drought in order to sow crops, this standard may be liberalized somewhat. Results of experiments in the use of freshwater of different degrees of desalinization on the growth of wheat sprouts and seedlings has shown that when the salt content of desalinized water is between 3 and 4 grams per liter, it has virtually no adverse effect on the growth of wheat sprouts or seedlings. When salt content of desalinized water was 5 to 6 grams per liter, it seriously restricted growth of wheat sprouts and seedlings; however, if a way can be found to mix in a proper quantity of freshwater, such water may also be used. Where chemical testing conditions permit, the method used for evaluating water quality may be either the drying method or the electrical conductance measuring method. When chemical testing cannot be done, test methods using growth of seed sprouts and seedlings may be used. If culturing in desalinized water brings similar sprout and seedling growth as when distilled water or drinking water is used for culturing, this shows quality to be very good and it may be used. If seeds do not sprout or if they sprout but do not elongate, this shows the salt content of the water to be too high, making it unuseable.

Methods for finding and using formations of underground desalinized water at a shallow depth in saline-alkaline prefectures along the seacoast are also of reference value for the inland saline-alkaline prefectures of Heze, Liaocheng, and Dezhou.

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CSO: 4007/457

## STEPPING UP OF FLOOD PREVENTION MEASURES URGED

Jinan DAZHONG RIBAO in Chinese 16 May 82 p 1

[Article: "Early Preparations Against Flood Season by All Jurisdictions Is Requirement From Flood Season Prevention Conference Convened by Provincial Government"]

[Text] The Flood Season Prevention Conference recently convened by the provincial government required all jurisdictions to make active preparations against the flood season even while continuing to fight drought.

The conference noted that despite the current drought in the province, the flood season is about to arrive. According to forecasts, during this year's flood season, rainfall in the lower reaches of the Huang He will be somewhat greater than normal, and quite possibly southwestern Shandong and northern Shandong prefectures may experience unaccustomed amounts of water. In considering this year's flood season, one should stick to "better believe it will happen rather than believe that it won't." Preparations should be made against the eventuality that it will rain, and preparations should be made against the eventuality that the rains will be large, making good preparations for the worst while hoping for the best and being prepared just in case.

Overall requirements resulting from the conference's study of this year's flood season prevention tasks are as follows: Adherence to the principle that "prevention is the key, prevention being better than salvaging," with implementation of centralized leadership, level by level responsibilities, and attention given to mental, organizational, project, and material preparations, and to prudent management and bolstering of defenses so that, within existing project standards, there will be no breaking of reservoir dams or bursting of river dikes or waterlogging turning into a disaster. Counter-measures have to be readied against abnormal flooding, every available means used to assure safety during the flood season and to reduce damage.

In order to fulfill this year's flood season tasks, the conference required each jurisdiction to take firmly in hand the organization of inspections in advance of the flood season, and to gradually study and solve problems uncovered in the source of inspections. Hidden faults at the base of reservoir projects should be handled first. All dike openings, temporary

dams, and high channels for water diversion should be handled within a limited period of time. Plains areas should put their drainage systems in order to assure smooth drainage. Along the shores of the Huang He, production dikes and obstacles to the flow of floodwaters in the river should be cleared away in accordance with regulations. Leadership should be strengthened and sufficient workforces transferred for projects for getting through the flood season that have been laid out. For hazardous projects that cannot be taken care of for the time being, emergency measures for safe passage through the flood season should be conscientiously instituted and guarding strictly done to insure safety. Cases of destruction of water conservancy projects must be strictly dealt with to bring about a resolute halt. For all Huang He, inland river, and reservoir water conservancy projects, a corps to guard against the flood season should be organized, its duties clearly stipulated, good training given it, and sufficient materials to protect against the flood season should be made ready. Urban flood prevention work should be strengthened. Streams for the discharge of urban flood waters should not be filled in, river shallows should not be occupied; there should be no haphazard digging or building done, garbage dumped, or wastes discharged that impede the safe movement of flood waters.

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CSO: 4007/449

## POINTERS GIVEN FOR GROWING OF STURDY RICE SEEDLINGS

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 8, 1982 p 7

[Article by Jin Liufu [6855 3966 4395]: "Technique For Breeding Sturdy Rice Seedlings with Tillers"]

[Text] The breeding of sturdy seedlings with tillers is an important way in which to increase rich output. Because a great amount of organic nutrients are stored within the bodies of sturdy seedlings with tillers, roots develop rapidly following planting, the number of new roots averaging 10.7 to 21.3 more in number than for seedlings without tillers. Greening up also occurs faster than for seedlings without tillers, growth of new leaves on individual plants averaging 2.8 to 8.3 more in number. Where the salt content of water in fields runs to 0.3 to 0.4 percent, the survival rate is four to five times higher. Tillers develop rapidly, the effective tillers being numerous and sturdy, with panicles numbering between 60,000 and 90,000 per mu, and ripening occurring between 2 and 5 days early. Yields increase by about a general 18 percent as compared with seedlings lacking tillers.

Mastery of four techniques is required in growing sturdy rice seedlings with tillers, as follows:

1. Fertility of seedling fields. Best is selection for use as seedling fields those plots that contain 1.5 to 2.0 percent organic material, 10 to 20 ppm quick acting nitrogen, and upwards of 10 ppm of quick acting phosphate. As base fertilizer, between 5,000 and 8,000 jin per mu of thoroughly composted organic fertilizer, 20 to 30 jin of ammonium sulfate, and 50 to 70 jin of superphosphate should be applied. Depending on seedling color and growth during the seedling growth period, additional dressing with 30 to 40 jin of ammonium sulfate should be given.

2. Small quantity of seeds grown. Experiments show that when seedling fields are sown at the rate of 50 jin per mu, the plant tillering rate is 74 percent. When 75 jin per mu are sown, the plant tillering rate is 54 percent. When 100 jin per mu are sown, the plant tillering rate is 40 percent, and when 120 jin per mu are sown, the plant tillering rate is less than 10 percent. Furthermore, the greater the quantity of seeds sown, the higher the tiller death rate after the seedlings grow. Consequently, a suitably small quantity of seeds should be sown on seedling fields. For early seedlings, between



70 and 100 jin per mu should be sown; for seedling propagation in moist conditions, between 50 and 70 jin per mu should be sown.

3. The layer of water should be kept shallow during the tillering period. At the four leaf stage, seedlings begin to tiller. By withholding water during this stage, seedling roots go down fairly deep and tillering is controlled; seedlings become hard to pull up. If the layer of water is overly deep during this time, the seedlings are prone to development of black root and seedling death. Experiments show that after the three leaf stage for seedlings, water should be maintained at a depth of 0.5 cun and no more than 1 cun. Fields should be regularly aired at night to promote tillering and growth of sturdy seedlings.

4. Use of chemical herbicides to eliminate weeds. Weeds compete with seedlings for sunlight and fertilizer and seriously impede seedling tillering. Chemical herbicides may be used to eliminate them. The specific method used is as follows: 1) Seedling field preparation in advance of sowing. Between 6 and 7 days in advance of sowing, 25 percent nitrofen at the rate of 1 to 1.2 jin per 40 to 50 jin of water should be applied. After the seedling bed surface has been sprayed, a layer of water should be maintained on it for 7 to 8 days. 2) Spraying of herbicide during the seedling stage. Between the 1 and 2 leaf per seedling stage, 20 percent propanil emulsion at the rate of 2 to 2.5 jin per 30 to 40 jin of water should be sprayed on leaves. In seedling fields heavily infested with sanlengcao [0005 4462 5430] and niumaocao [3662 3029 5430], misting may be done with 70 percent dimethyl-tetrachloride. Alternatively the two aforementioned herbicides may be mixed together and applied. When spraying leaf surfaces, a warm wind-free day should be selected. Fields should be aired for 1 day before and after spraying after which water should be maintained in the fields to a depth of 1.5 cun for 6 to 7 days to drown the weeds, after which normal irrigation may be recommenced.

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CSO: 4007/446

## SPECIFICATIONS PROVIDED FOR NEW COTTON VARIETY

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82  
pp 27-28

[Article: Briefing on Cotton Variety Zhongmiansuo No 1"]

[Text] (1) Variety Origin. Zhongmiansuo No 10 cotton (formerly called Zhong 509] was bred by the Cotton Institute of the Chinese Academy of Agricultural Sciences in 1975 from the continuous selective breeding of 23 selected long fiber plants of cotton variety Shanmian No 1 followed by selection of natural mutants from the 23 strains.

(2) Characteristics and Properties. Plant heights for this variety are about 60 centimeters; plants are compact and tubular in shape. Fruiting branches stick upward; distances between nodes are short, and secondary fruiting branches produce large bolls. Zhongmiansuo No 11's main stem is fairly small; leaves are fairly thin; leaf color is light; individual leaves at the tops of plants stick straight up, and phototaxis is strong. Bolls are ventily spaced at the top, middle, and bottom of plants; boll formation is strong; bolls are fairly concentrated, and the dropping rate for squares and bolls is low. Bolls are ovular, and average weight of individual bolls is about 5.5 grams; ginning outrun is about 35 percent; and seed numbers is 10-11 grams. This variety prefers soil with fairly good fertility and water conditions; it does not tolerate infertility; does not tolerate waterlogging; and will not withstand drought. Yet another major characteristic of Zhongmiansuo No 10 is early ripening, its total growing season being only about 114 days. When sown before 20 May to 5 June in south central Shandong and southwestern Shandong prefectures, its before frost cotton rate was better than 80 percent. Naturally, owing to differences in climatic and cultivating conditions in different places, the variety's growing season differs. For example, during the past 2 years when sown on 8 June in Linyi County, it had a total growing season of from 111-119 days, with more than 80 percent of its cotton being produced before frost. When sown on 5 June in Liaocheng County, its total growing season was 122 days. Planted on 6 June in Linqing County, its total growing season was 129 days and it produced 51.06 percent of its cotton before frost. Sown in Huimin County on 12 June, its total growing season was 123 days and it produced 29.15 percent of its cotton before frost.

(3) Yields. Experiments conducted at 12 sites in a farming system reform experimental area in the Huang He basin in 1980 produced yields of ginned cotton averaging 138 jin per mu, and yields averaging 114.52 jin per mu in 1981 to take first place in average yields per unit of area. Results of area testing of early ripening varieties in Shandong Province in 1981 were as follows: At four experimental sites in central and southwestern Shandong, ginned cotton yields averaged 136.4 jin per mu, 15 percent more than for Luzao No 1. At two experimental sites in northern Shandong, ginned cotton yields averaged 120.9 jin per mu, 12.2 percent less than for Luzao No 1. At four experimental sites in northwestern Shandong, ginned cotton yields averaged 126.3 jin per mu, 3.1 percent less than for Luzao No 1. At two experimental sites in Linyi and Liaocheng counties, when Zhongmiansuo No 10 was sown on 8 June and 5 June, ginned cotton yields averaged 108.3 and 159.2 jin per mu respectively, 41.4 percent and 5 percent more than for Lukang No 1.

(4) Fiber Quality. Measurements made in 1979 by the Beijing Municipal Fiber Inspection Institute showed quality standards for 32 count yarn in test spinning to be 2,700 fen [0433 ? pick]. Quality standards for test spinning of 32 count yarn at the Northern He'nan Cotton Spinning Plant in He'nan Province in 1980 showed a quality standard of 2,700 fen. Test spinning of 42 count yarn at the Jinan National Cotton Plant No 4 in 1981 showed a quality standard of 2,820 fen. Results of testing of physical properties in 1981 showed most fibers to have a length of 30.12 millimeters, the tensile strength of individual fibers to be 3.83 grams, a fineness of 6,793 meters per gram, and a breaking length of 26,190 kilometers (sic).

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CSO: 4007/445

CORN, WHEAT INTERCROPPING TECHNIQUES EXPLAINED

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82 p 22

[Article by Mao Guizhang [3029 6311 4545], Yantai Prefecture Agriculture Bureau: "How To Arrive at the Time for Intercropping Corn"]

[Text] Proper timing of the sowing of corn when intercropping with wheat not only bears on whether or not summer corn yields will be high, but also bears on whether the following crop of wheat can be sown on time. It is necessary to adapt general methods to local situations and varieties and, in a spirit of concurrent concern about both the wheat and the corn, to arrive at a time for the intercropping of corn.

In Yantai Prefecture, the time for sowing corn for intercropping with wheat is arrived at on the basis of the factors given below.

One is to arrive at the intercropping period for corn by using the right time for the sowing of wheat to extrapolate forward the harvest time for the corn. For example, the right time for sowing the wheat is between 20 September and 5 October so the wheat will get between 650 to 700°C cumulative temperature before the onset of winter, and so the wheat seedlings will produce numerous tillers and sturdy seedlings to help it safely over winter. Extrapolating ahead from 15 September to get the time for intercropping means that corn varieties with a growing season of 120 and 100 days should be intercropped in Yantai Prefecture on 15 May and 8 June respectively.

Second is extrapolating ahead the time for intercropping corn by using the initial period of corn ear differentiation as the time to harvest wheat. During the period of common growth for wheat and intercropped corn, competition exists to obtain water, fertilizer, and light. When the corn enters the stage of ear differentiation, in particular, the competition between the two crops for fertilizer and water becomes more pronounced, and if there is a lack of water or sunlight, differentiation of the young ears may be impaired. Corn varieties with a growing season of 100 to 120 days have an initial ear differentiation period lasting 35 to 45 days. Consequently, the period of common growth for corn intercropped with wheat should not exceed this segment of time, i.e. the corn intercropping period should not exceed the initial ear differentiation stage.

Third, strength should be put to use and weaknesses avoided in weather conditions to turn disadvantages into advantages. Principal weather factors limiting corn production are the following: 1) Insufficient cumulative temperatures during the growing stage. Corn varieties with a 100-120 day growing season require cumulative temperatures totaling from 2,300 to 2,800°C over the growing season, but summer corn often does not get the full amount. 2) Failure of the period of naturally high temperatures to coincide with the period of high temperatures needed for corn to develop. During the period of flowering, pollination, in-the-milk, and kernel setting, average daily temperatures of 24-26°C and from 20-24°C are required. If they are too high or too low, corn pollination may be impaired and kernels small. 3) Waterlogging during sprouting and seedling stages. If within a period of 40 days after the corn has been planted a rainy season occurs in which the amount of precipitation is more than double that required by the young seedlings, sprout waterlogging and seedling waterlogging may occur. Thus, when figuring the intercropping season for corn, this factor has to be taken into consideration so as to take advantage of strengths and avoid weaknesses of the local climate and turn disadvantages into advantages.

On the basis of the overall balance of the foregoing conditions, Yantai Prefecture adapted general methods to local situations to use two intercropping periods and two intercropping methods. Huang County, Ye County, and some of the plains area of Zhaoyuan, where temperatures are rather high, summer waterlogging rather slight, and autumn cold comes rather late, used an ordinary intercropping method, by which is meant that at the time the wheat was sown, a distance of from 0.8 to 1 chi was left between rows for the intercropping of corn, and intercropping was done 15 to 20 days before the wheat was harvested (around 10 June). In the 12 counties and municipalities including Rongcheng, Wendeng, Rushan, and Haiyang, which are low-lying areas along the sea or along rivers, where temperatures tend to be low, summer waterlogging severe, and autumn cold arrives early, "2-4 plot" intercropping was used. By this is meant that wheat was sown in 4 chi square plots with plots 2 chi square being left next to them. Between 35 to 45 days before harvesting of the wheat, (around 10 May) two and a half rows of summer corn were intercropped. Inasmuch as the time of intercropping and intercropping methods suited local natural conditions, plus improvements in other methods, increases in corn yields were greatly advanced.

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CSO: 4007/445

## NEW CORN VARIETY CHARACTERISTICS, SEED PRODUCTION DESCRIBED

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82  
pp 24-25

[Article by Cui Guangdian [1508 0342 7193] and Cui Qingyun [1508 1987 0061],  
Linyi Prefecture Seed Station: "Corn Variety, Shendan No 3"]

[Text] Corn variety Shendan No 3 was bred by the Shenyang Municipal Agricultural Institute in Liaoning Province in 1974 using inbred line "Zi 330" as the female parent and inbred line "Baihe 43" as the male parent to produce a single hybrid variety. In 1977, following examination and approval by the Liaoning Provincial Crop Variety Examination and Approval Committee, it was promoted to cultivation. In 1980 it was introduced into Linyi Prefecture for test planting. A brief description of this variety is given below.

Characteristics and properties: Plant height of 250-270 centimeters; ears located at around 80 to 90 centimeters. Bud sheaths on young seedlings are purplish red in color; leaves are slightly rippled; leaves total 19 in number; and plant shape is compact. Ears are tubular in shape and grow 20-24 centimeters in length. Kernels are yellowish white, are of the dent type, and ears contain 46 kernels in 18 rows, the per 1000 weight of kernels being about 400 grams, individual ears weighing about 300 grams. The growing season, when planted in spring, is about 130 days; when planted in summer, it is about 110 days. It is fairly resistant to large and small leaf spot, and to head smut. It is slightly susceptible to green withering.

Yields. In experiments conducted at a total of 10 test sites in 4 districts of Shenyang Municipality and in Xinmin and Liaozhong counties in 1975, yields averaged 1,322 jin per mu, 29.7 percent more than from control variety Danyu No 6. In demonstration experiments conducted at Dazhuxia Production Brigade in Chahe Commune, Linyi County in 1980, Shendan No 3 yields were 1,352.09 jin per mu, 13.15 percent more than for control variety Danyu No 6, and 11.55 percent higher than for Lusan No 9.

Essentials of farming and seed production. Shendan No 3 has moderate fertility and water requirements. It is suited for growing in poor soils and in oily sandy soils for moderate fertility. When grown where fertility and water conditions are bad and the soil is fairly poor, either wide row cultivation or intercropping with wheat produces definite increase in yields.

Planting density should be 2,800-3,200 stalks per mu (more produces susceptibility to green withering). During the period of vegetative growth, care should be taken to prevent and control corn borers and green withering. For seed production, when the female parent has three leaves on a stalk, the male parent should be sown, the ratio of rows being 2:4 or 2:6. When producing seeds through backcrossing, both female and male parents may be sown at the same time, or the male parent seeds may be dipped in bud stimulant and sown together with the female parent, row ratio being 2:6 or 2:8.

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CSO: 4007/445

## BRIEFS

NEW ANTIDROUGHT METHOD LIMNED--Dongdianhou Production Brigade in Longquan Commune, Mouping County took advantage of the large number of ravines and streams locally to dig ditches in the bottoms of streams, wall them with masonry, and raise water. This was an antidrought project for raising the underflow to the surface, which effectively solved problems in fighting drought during seasons when the streams dried up. The masses called them "reclining wells." The specific way of making reclining wells is as follows: Dig a 20 meter long, 5 meter wide, 3 meter deep corridor across the river bed and then wall the corridor with rocks, adding stone slabs or concrete slabs across the top. Atop the concrete slab add water filtering sand and stone to a depth of about 1 meter to produce a well that looks at though it is reclining on its side. Then wall up a verticle shaft from which water can be drawn at one or both ends of the reclining well, and use a water pump to pump the accumulated water in the reclining well to the surface to irrigate the fields. Tests show such a well can raise more than 100 cubic meters of water per hour. The infiltration section of such a reclining well is large. Both the up and down stream undercurrent and the upstream open current infiltrate the well. Construction is simple; investment is economical; and adaptability is wide. All that is needed is a large or small stream with a sandy layer, and the construction may be done in either a new or old watercourse. Moreover, since such a reclining well for temporary use in fighting drought continues to "recline" at the bottom of the stream, it does not impair the movement of flood waters through the watercourse, so it can be a permanent project used in case of drought.

[Text] [Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 8, 1982] 9432

CSO: 4007/446



SHANGHAI SUBURBS UTILIZE SEED CAKES FOR FODDER

Beijing RENMIN RIBAO in Chinese 8 May 82 p 1

[Article: "Shanghai Suburbs Utilize Cottonseed Cakes and Vegetable Rapeseed Cakes for Fodder"]

[Text] The suburbs of Shanghai Municipality has opened up a new source of protein fodder by taking cottonseed cakes and rapeseed cakes (hereafter shortened to the "two cakes"), which had previously been directly used to fertilize fields, and remaking them into fodder, and then using the dung of domestic animals and fowls to fertilize the fields. This reform has promoted the production of pigs, poultry, eggs, and milk. According to statistics, last year the entire suburban area used about 93.5 million jin of the "two cakes" as fodder, accounting for 42 percent of Shanghai's total output of the "two cakes."

In the past the reason peasants did not use the two cakes for fodder, besides force of habit, was that the cakes contained toxic substances. Now, the "cakes" to be used for fodder are first detoxified and, after being processed into composite fodder, are supplied to the collective fodder grounds and to the commune members.

The utilization of the "two cakes," which are rich in protein, for fodder saves grain, raises the nutritional value of composite fodder, and lowers the cost of raising domestic animals and fowl, thereby improving economic results. In the past 3 years, Silian Commune in Songjiang County has used the "two cakes" to feed pigs, a practice which has greatly raised the level of its pig-raising production. Last year, compared with the period before 1979, when grain was used for fodder, the number of live pigs removed from inventory rose by 34.5 percent, and the average annual surplus in collective pig raising increased by over 48,000 yuan. The poultry farms of Fengxian County utilized the "two cakes" in the scientifically mixed feeding of 4,389 laying hens, and the annual total output of eggs was 117,300 jin, an annual average of 26.7 jin of eggs per chicken with a net income of 5 yuan 4 jiao 1 fen.

Editor's postscript: Cottonseed cakes and rapeseed cakes are top-quality fodder rich in protein, and the country's annual output of the cakes is about 7 billion jin. According to measurements and calculations, if the

cakes are used for fodder, their effectiveness in feeding domestic animals and poultry is better than that of the same quantity of grain.

For many years, some localities have not paid attention to opening up this source of fodder and have directly made these cakes into fertilizer. This is a very big waste. Utilization of the cakes as fodder is advantageous for the development of domestic animals and poultry, and the dung of domestic animals and poultry fed with these cakes is a top-quality organic fertilizer. By making this change, the localities will be able to save a large amount of fodder-grain, thus killing several birds with one stone. This course of action by the suburbs of Shanghai Municipality is worth advocating.

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CSO: 4007/417

## PROBLEMS WITH AGRICULTURAL RESPONSIBILITY SYSTEMS AIRED

Tianjin TIANJIN RIBAO in Chinese 7 May 82 p 3

[Article by Wang Longsheng [3769 7893 3932]: "How To Further Perfect Tianjin's Agricultural Production Responsibility System"]

[Text] Following the Third Plenary Session of the 11th Party Central Committee, Tianjin's agricultural production responsibility systems steadily developed, going from a small number of communes and brigades to a large number of communes and brigades, from some operations to all operations in every industry, and from a single form not linked to output to diverse forms mostly linked to output. As of the end of March this year, 16,341 of the 17,635 basic accounting units in the city's 12 suburbs and counties had set up various forms of production responsibility systems. This amounts to 92 percent of the total number of basic accounting units in which responsibility systems linked to output greatly increased in number as compared with last year. To a very large extent they surmounted egalitarianism in the calculation of compensation for work, and effectively aroused the enthusiasm for production of the masses of commune members to promote development of production. Nevertheless, some problems also exist. Principal of these are the following: Some commune brigades apportion the fixing of output quotas for responsibility fields on the basis of the average number of people. This means that households that do not have a large workforce, "cannot eat," while households with a large workforce "cannot get enough to eat." In some communes and brigades the assigned responsibility fields are overly scattered making for difficulties in collective and unified farming. Irrigation water is also not easy for the commune member masses to manage. In some cases the relationship between centralization and the fixing of responsibilities has not been handled well, making it difficult to make the most of the superiority of the collective economy and to arouse the enthusiasm of individual commune members, or even causing damage to collectively own property. In some communes and brigades the relationship among the welfare of the state, of the collective, and of individuals has not been handled correctly. In distributions, individual commune members tend to be favored while insufficient attention is given to collective withholdings for public accumulations. Still some others practice the contracting of jobs to be done within a certain period of time and calculation of compensation on the basis of fixed quotas with no fixing of work quotas or standards for fixing quotas. In actual fact, "during the busy season, jobs are contracted to be done within a specific period of time, and

during the slack season a big show of action is made," which is very bad for arousing the enthusiasm for production of the masses of commune members. Further perfection of the city's agricultural production responsibility systems must be done in the spirit of the "Minutes of the National Rural Work Conference" recently forwarded and published by the CCP Central Committee.

1. Among the Various Kinds of Contract Responsibility Systems, First the Contract Distribution of Land Must Be Equitable. Places practicing the fixing of output quotas on an individual household basis and the contracting of work tasks to individual households should encourage proportional contracting for land in accordance with production requirements on the basis of workforces or human labor. Inasmuch as workforce strength and skills differ, the quantity of land contracted may also differ. State staff and employees and cadres should not contract land. In order that land contracted for by commune members will be in one continuous strip, insofar as possible, and not overly scattered, depending on soil quality and different grades, output quota criteria for various parcels of land should be individually evaluated, a mix of good and bad land made, and an average output quota set for the mixture. The collective may keep a small quantity of land in reserve for contracting out to households with large workforces and to redistribute it when population changes occur.
2. Good Solution to the Relationship Between Centralization and Assignment of Responsibilities in Responsibility Systems. In all forms of responsibility systems there are problems in relationships between centralization and assignment of responsibilities. Centralization is for the purpose of making the most of the superiority of the collective economy, while assignment of responsibilities is for the better arousal of the enthusiasm for production of commune members. The objective of both is to promote steady development of production. Ours is a socialist country in which agriculture must keep to the road of socialist collectivization. Consequently the establishment of various forms of responsibility systems must help consolidate and strengthen the collective economy. Any way of doing things that weakens or divides up the collective economy is wrong. Production measures and production projects suited to cooperative production that individual commune member families or households cannot handle by themselves must be centrally managed by collectives, while production measures or projects that commune members can conveniently handle may be contracted to individuals to look after or run. What should be centrally managed and what should be contracted out in any given production brigade should be decided on the basis of realities through the adaptation of general methods to specific situations and specific matters, i.e., on the basis of the levels of development of productivity in the brigade, and on the basis of the management levels of cadres. Whatever should be centralized is then centralized, and whatever should be parceled out is then parceled out. Under most circumstances, essentially there should be "six centralizations," i.e., centralized planting plans, centralized drainage and irrigation, centralized management and use of large machines, centralized organization to eradicate and withstand natural disasters, centralized planning and organization of farmland capital construction, and centralized running of production projects and collective welfare endeavors suited to collective operation. Of the "six centralizations," centralized planning is the nucleus.

Practice has demonstrated that in the raising and use of large livestock animals, a combination of nurture and use is best, and usually three ways of doing this are used. One is care and use centralized in the collective, with systems of personal responsibility established for personnel who care for and use the animals, expenses being paid by the collective or through equal sharing by commune members. Second is collective ownership to preserve capital and value with specialized households caring for the animals, annual withholdings of depreciation expenses being done, the animals being used by a number of households with the households sharing expenses. Positively no "boarding of the animals with different peasant families" is to be allowed. Third is in brigades where livestock animals are fairly scarce and cadre levels are low when brigades are unable to centralize. In such cases, livestock animals are turned over to households at a reasonable price, the funds obtained being deposited in a bank or used to purchase other means of production. When the price set is overly low, it should be corrected inasmuch as this is a disguised way of dividing up collective property. Today, in many communes and brigades where land is scant relative to population, after livestock animals have been turned over to households at a price, the number of livestock animals greatly increases and hay and fodder requirements become very large, while full use cannot be made of the livestock, and thus economic benefits derived are not good. This requires further study for solution.

3. Conscientious Handling of the Relationship Among State, Collective, and Individual Advantages. "Three concurrent concerns" is an important principle in socialist countries, and how well this is done bears on development of national construction, the consolidation and strengthening of the collective economy, and bringing into play the enthusiasm for socialism of individuals. How can it be handled well? On the basis of the experience of some communes and brigades, three problems have to be resolved. First is improvement in the understanding of cadres and of the masses of the relationship between withholdings and accumulations and the consolidation and strengthening of the collective economy, overcoming the mistaken notion among some grassroots level cadres that withholdings and accumulations are useless. On this point, it should be repeatedly explained that centralized administration with the contracting of work tasks to households does not mean the division of fields to be worked alone. Second is solution to the notion among some cadres of "no withholdings from agriculture, but collections from sideline occupations. They must be made to understand that industrial sideline occupations are subject to the effects of industrial readjustment and that earnings are by no means dependable. If there are no withholdings for accumulation from agricultural income, when income from industrial sideline occupations cannot be counted on, and finally at year's end everything is divided up and picked clean, inevitably the collective economy would be weakened. Third is the need to conscientiously figure up two accounts. One is the grain account, i.e., grain purchased by the state, grain to take care of the families of martyrs and military personnel and of the households enjoying the five guarantees [children and infirm old persons who are guaranteed food, clothing, medical care, housing, and burial expenses by the people's communes], grain for use in production etc. The second is the cash account, i.e., the income, expenditure, and accumulation account for collective operations. After this

has been done, the amount of funds to be withheld should be fairly set on the basis of the difference between receipts and expenditures and party distribution policies, and on the basis of comparison of the previous year's gross income and accumulation levels. Last year, Yuelong Commune in Ninghe County had an overly low accumulation level, so this year cadres and masses were organized for conscientious figuring of two accounts, and commune accumulations became 2.3 times what they had been in 1981..

4. Formulation of labor quotas to solve egalitarianism in distributions. Statistics show that 6,182, or more than one-third of the more than 16,000 basic accounting units in Tianjin that practice production responsibility systems, have instituted calculation of compensation on the basis of fixed amounts of work to be done in a certain period of time. In an appreciable number of units among them an egalitarian situation continues to exist in the calculation of compensation for labor. In order to overcome this flaw, quota standards for farm work must be set so that most of the farm work assigned can be compensated at a fixed quota. Furthermore, inspection of quality of farm work tasks performed should be done to insure quality. If the mass of commune members demand that this form be changed to a responsibility system in which output and calculation of remuneration are linked, all levels of leadership should act on the principle of tailored guidance to give active support and help bring it about.

One important link in the perfection of various responsibility systems is the signing by both sides of contract agreements. The contract agreements should clearly specify the rights and obligations that each side is to assume. Once the agreements have been signed, both sides must carry them out in full and guarantee to honor them. Neither party may take it upon himself to revise or void the agreements. Should disputes arise, they are to be mediated by the next higher echelon or be heard by a judicial department.

Effective work in setting up production team classes and doing a good job of ideological and political work is yet another important assurance for the further perfection of production responsibility systems. In some communes and production teams where production responsibility systems are not run well and problems of various kinds crop up, it is mostly because of weak and lax leadership. Either their own thinking is not straight and they provoke a "confrontation," or they abandon leadership, throw up their hands and do nothing, "letting things take their course." How can responsibility systems be straightened out in this way! Therefore, ideological indoctrination and reorganization of grassroots leadership teams must be carried out to increase the ideological and political consciousness of cadres, and to buttress their dedication to doing a good job of the collective economy and their sense of work responsibility. Additionally, indoctrination of commune members in the "three intense loves," and the "three concurrent concerns" should be done to raise their ideological and political consciousness and their obedience to discipline and respect for the law, so that immediate benefits will be subordinate to long-term benefits, and so that individual benefits will be subordinate to national and collective benefits. Only in this way can agricultural production responsibility systems gradually be perfected.

BROADCAST RALLY URGES ON-TIME PLANTING ACCORDING TO PLAN

Hangzhou ZHEJIANG RIBAO in Chinese 11 May 82 p 1

[Article: "Use Every Available Means To Win Bumper Early Rice Harvest Was Demand of Provincial CCP Committee, and Provincial Government to All Jurisdictions at a Broadcast Rally Convened Yesterday. Need for Immediate Survey of How Well Things Have Been Put Into Practice in Early Rice Growing Area, With Sufficient Planting According to Plan Done Wherever Sufficient. Planting Has Not Been Done. Unauthorized Changes in Planting of Economic Crops To Be Resolutely Corrected"]

[Text] Yesterday the Zhejiang Provincial CCP Committee and Provincial People's Government convened a broadcast rally for further mobilization of the concerted strength of the broad masses of rural cadres and the masses of commune members throughout the province to do a good job of carefully harvesting and carefully threshing summer-harvested crops and planting a sufficient amount of early rice well, using every available means to win a bumper grain harvest for the year as a whole.

Deputy Provincial Governor Wu Zhiyuan [0702 2784 2268] chaired the broadcast rally. Provincial CCP Committee Secretary and Deputy Provincial Governor Chen Zuolin [7115 0155 7207] spoke at the rally.

The rally analyzed the agricultural production situation. It acknowledged that ever since the lunar new year, all levels of CCP committees and government have diligently carried out the spirit of the "Summary of the Minutes of the National Conference on Rural Work" and of the Provincial CCP Committee Work Conference, and have strengthened leadership of rural work. Thanks to the commune efforts of the broad masses of cadres and commune members plus fairly favorable weather conditions, the agricultural production situation is currently very good. A bumper harvest from summer-harvested crops is in prospect; early rice seedlings are sturdy; quality of early rice transplanting in green manure fields is also not bad; and field care has been taken firmly in hand. The production situation is also rather good for spring tea, spring silkworms, and live hogs. However, in order to fulfill this year's agricultural production quotas, and particularly in order to win a bumper early rice harvest, arduous efforts will still be required. The conference emphatically pointed out that the early rice crop links the past to the future. Not only are yields high, but they are also fairly consistent



as well. Early rice output accounts for half the grain output for the year as a whole. Therefore, making sure of the early rice crop is an important key to realizing grain production quotas for the year as a whole. Experiences over the years have shown that once the early rice has been harvested, the initiative has been seized for grain production for the year as a whole. Otherwise, life is hard and a situation of apathy about the year as a whole may form. Right now numerous factors favor a bumper early rice harvest. Now is the important season for tending to green manure field breeding of early rice and making ready to transplant early rice into the fields from which summer crops have been harvested. The opportunity should not be missed; the time will not return. All levels of CCP committees and government must concentrate energies and earnestly strengthen leadership. The broad masses of rural grassroots cadres and commune masses must further act to do a good job of transplanting the early rice and of field care, using every available means to win a bumper early rice harvest.

The rally emphasized the current need to direct attention to the following several tasks:

First, continued attention to planting more early rice so that this year's early rice acreage will exceed last year's. Much work was done and definite achievements scored through implementation of the early rice growing area by all jurisdictions during the previous period, but they are still far short of plan requirements. All jurisdictions should immediately conduct a survey of how well early rice growing was carried out, and where insufficient rice was planted, and planting in accordance with plan should be done. Unauthorized changes in the growing of economic crops should be resolutely corrected. In addition, the masses should be stirred to tap the soil's potential to grow more early rice to the fullest extent possible.

Second is serious attention to the propagation of early rice seedlings. This year many places have sown seedlings very close in the three crop system. Various means should be used to increase seedling quality and prevent jointing of seedlings so they will not be too far along before being transplanted.

Third is keeping apace of the season to assure quality. This year the summer harvested crop area on which rice is being grown has been expanded over last year, but harvest of summer-harvested crops has been delayed, and an increase has occurred in the numbers of spring silkworms incubated. In some places, harvesting, planting, field care, and raising of silkworms have all taken place at the same time, and the conflict in seasons for doing each is fairly pronounced. Overall planning with due consideration to all factors must be done. Arrangements must be made in an overall way, workforces rationally organized, transplanting done on time, and efforts made so that no planting will have to be done in "June fields." In former years the quality of early rice transplanting into fields from which summer-harvested crops had been harvested was somewhat neglected. This year attention should be given this problem. Adequate base fertilizer must be applied, planting done reasonably close, and sufficient basic seedlings transplanted to lay a foundation for high yields from the early rice crop.



Fourth is care immediately following planting, major efforts being devoted to early development. During the past several years, because some places did not give timely care to their early rice crop, it did not develop well in the early stage only to develop wildly in the late stage. Lodging and diseases became serious. This lesson should be learned this year, with care being given even while planting is in progress, with early weeding of the fields and early fertilization to promote early development in an effort to produce high yields from the early rice crop throughout.

The rally also emphasized the need to prepare conscientiously for the late rice crop and autumn production of grains other than rice and wheat, even while devoting attention to early rice crop production. There should be diligent exchange of experiences on late rice crop production, measures for increased yields being put into effects in production teams, households, and fields. Additionally, a good job has to be done in harvesting and threshing carefully the summer harvested crops, experiences in gaining high yields from grains harvested in the spring summarized, and arrangements made about this year's winter season crops.

In conclusion, the rally noted that the key to winning a bumper early rice harvest lies in strengthening leadership and requiring all levels of leaders to further publicize and put into effect the "Summary of the Minutes of the National Conference on Rural Work" approved and sent forward by the CCP Central Committee, and to continue to perfect agricultural production responsibility systems. The job of popularizing and promoting agricultural science and technology should be intensified. There is need for conscientious change in leader workstyles and improvements in leadership methods, with leaders going into the frontline of agriculture to genuinely help the grassroots solve real problems.

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CSO: 4007/449

ENSURING PLANNED GRAIN AREAS URGED

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by staff commentator: "Ensuring the Planned Area for Food Grains-- Second Comment on Exerting Efforts To Grasp This Year's Agriculture"]

[Text] Exerting major efforts to grasp this year's agricultural production and to stabilize the planting area of food grain crops are the urgent tasks at present. Before the busy season of spring tilling, each locality must quickly guarantee the planting area for food grains according to plans.

This year, the task of agricultural production in our province is difficult. To realize a steady increase in the total yield of food grains without a definite planting area will not be possible. Although with good weather conditions and subjective efforts, sometimes the predetermined output can be reached or surpassed even if the sowing area is slightly less, but, we cannot plan for everything and believe that everything will go smoothly. If the area cannot be guaranteed, and if unexpected natural disasters occur, then we will suffer a big loss. Therefore, only by planting the area fully and well according to plan and by exerting efforts in many aspects can we grasp the initiative in food grains production and remain undefeated.

The people depend on food. Exerting efforts to develop food grains production so that the total yield of food grains can steadily increase is an important task of agricultural production. We cannot regard it lightly. But some comrades have had several years of good harvests and have relaxed food grains production. They have expanded the areas for diversification again and again while arranging the distribution of crops, and they have reduced the planting areas of food grains again and again. This incorrect way of thinking and doing things should be highly noticed by the leadership at each level. During the 10 years of internal strife, because of sabotage and destruction by the "gang of four," Zhejiang, known as the home of abundant fish and rice, had to consume "soybeans and sorghum" from the Northeast. This lesson must not be forgotten. Today, we cannot let the people suffer again from a shortage of food grains because we have reduced the area of planting food grains at will. Maybe some comrades would say: "As long as we have money, why should we worry about not being able to purchase food grains?" You are wrong, comrades! If everyone thinks the same way as you and reduces the area of grain fields on a widespread basis, then, no matter how much money

you have, where can you go to purchase food grains? The ancestors said: "Pearls, jade, gold and silver cannot be consumed when one is hungry and they cannot be worn as clothes when one is cold." Food grains are the treasures among treasures. We must never sway from the motto of "never relaxing food grains production." We must be firm and unswaying in ensuring the area of grain fields. We do this not because we can reduce or give up the development of economic crops and diversification. Conversely, economic crops must still be actively developed. The problem is that they must not further occupy grain fields. They should develop towards the mountains, hilly areas, rivers, ocean areas and beaches. We should think of ways to increase unit yield.

Aimed at the trend of liberalization in planting at some localities in our province, the party committee and government of each locality should take necessary administrative measures to interfere while strengthening ideological education to guarantee that the planned area of sowing of food grains is assured. Agricultural production is an important part of the nation's planned economy, and it must be guided by state plans. Farmers and production teams can only act within the scope allowed by state plans. The idea that "contracting a piece of land means that the contractor can plant anything" is mistaken. Some commune brigades have realized definite results in educating cadres and commune members and correcting the trend of liberalized planting by confiscating contracted land when the contracting family did not act according to state plans, and planted economic crops or developed diversification in the contracted grain fields. The purpose of such administrative interference is to maintain the whole benefit of the state and at the same time to fundamentally maintain the benefits of the collective and the commune member individual. Of course, we still emphasize ideological education. Administrative interference is only an auxiliary way. We must not believe that we can relax necessary political and ideological work whenever we mention administrative interference or even carry out forced orders and exercise "arbitrary uniformity." As long as we clarify the reason and actively guide the people, we can believe that the broad number of farmers can take the overall situation into consideration and recognize the overall situation and will be willing to accept the guidance of state plans.

Comrades on the agricultural battle front, spring tilling is about to start. We must not wait. Let us quickly stabilize this year's area for planting food grains and concretely implement the plans in every field to establish a good material foundation for the steady increase in food grains production.

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CSO: 4007/343

# YUHANG COUNTY PROJECTS INCREASED RICE PLANTING OVER 1981

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Zhuo Jiegeng [0587 0094 1649]: "Developing the Potential in Many Aspects To Grasp Food Grains Production Well, Yuhang Will Plant Over 10,000 Mu More of Early Rice Than Last Year"]

[Text] Yuhang County has correctly handled the relationship between state plans and the autonomy of production teams, and between food grain production and diversification. It has developed potential in many ways. The whole county has prepared more than 421,000 mu of early rice, an increase of more than 13,000 mu over last year and an increase of more than 3,000 mu over the area actually planted in 1980.

While arranging this year's agricultural production plan, the county committee and the county government aimed at the problem that some commune brigades have neglected food grain production, organized cadres to conscientiously learn the related documents of the Central Committee, improved everyone's understanding of the importance of developing food grain production so that everyone understood clearly the relationship between correctly handling well food grains production and diversification under the guidance of state plans, and implemented measures to assure the area for early rice. First, they were determined to stop the competition between diversification of food grain crops for planting areas. Some commune brigades revised their planting plans. This year, Anxi Commune originally planned to plant 1,000 mu of wild rice stems, mushrooms and water chestnuts, surpassing the state plans by one and a half times. After learning and discussion, it decided to free the 600 mu beyond the state plans for planting special indigenous crops to plant paddy rice. In developing diversification, many commune brigades actively guided the masses to improve unit yield and to utilize mountain land, miscellaneous land and beaches. In this way, the whole county readjusted and expanded the area of food grains by more than 3,000 mu. Second, they insisted on the triple cropping system to improve the multiple planting index in view of the superior characteristics of natural conditions and the fact that there are more people and less land at the locality. Last year, the whole county planted 10,300 mu of single season hybrids. This year, except for some fields on mountain ridges which receive less sunshine, many commune brigades restored the area of planting early rice. Just this effort alone enabled the whole county to plant 5,400 mu more of early rice than last year. Each

commune brigade also paid attention to improving the rate of utilization of seedbeds and appropriately reduced the seedbeds specifically utilized for late rice. This effort is expected to provide nearly 1,000 mu more for planting early rice. In addition, each county farm has also developed the potential of the land fully, so that the area of planting early rice can be enlarged by more than 3,000 mu.

To produce food grains well, to complete this year's agricultural production tasks and to complete them with surplus, recently, the cadres at each level throughout the county went deeply into the frontlines of spring tilling, and they inspected the planting plans for various crops and measures to increase yield so that every aspect is implemented. Sandun Prefecture combined efforts with signing contracts for work to implement plans for food grains production and planting, the distribution of varieties, the output goals and the state's procurement and surplus procurement tasks together for the production teams and the contract work groups to carry out. Of the 641 production teams throughout the prefecture implementing contracting production to the group and linking production with remuneration, 74 teams have already signed such contracts.

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### THREE TECHNIQUES TO INCREASE EARLY RICE OUTPUT GIVEN

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Xie Renxing [6200 0088 5281] of the Shaoxing Prefecture Agricultural Science Institute: "Strive To Plant More and Produce High Yields of Early Rice by the Three Techniques"]

[Text] Early rice is our province's high yielding and stable yielding single season crop. What technical measures can be taken to strive for planting more and producing high yields of early rice? We believe:

I. Late rice must be cultivated in two stages as much as possible. This can reduce the area of special seedbeds and provide more land for planting early rice. This will establish a good foundation for cultivating sufficient and good and strong seedlings of late rice. For example, if we arrange 10 percent of the land for planting early maturing varieties of early rice as seedling plots for late rice, then, 90 percent of the area of early rice can be used for early rice and the area of seedling plots for late rice can be enlarged to 20 percent.

II. The unit yield of early and intermediate maturing early rice can be improved. There are four ways: 1) Early and intermediate maturing varieties can be matched with early maturing barley fields, guang lu ai No 4 and such late maturing varieties can be matched with green manure fields, thus, "shifting of varieties" can be carried out and this can prevent damage to panicle bearing and heading of early and intermediate maturing varieties by lower temperatures. 2) Strong seedlings of appropriate age can be cultivated. The suitable seedling age of early maturing varieties is within 25 days, and that of intermediate maturing varieties is within 30 days. The amount of sowing in the seedling plots is 120 jin to 140 jin. The main field uses about 20 jin of seeds. 3) Fertilizers in appropriate amounts should be applied early. Base manure and seedling fertilizers constitute two-thirds the total amount of fertilizers, and fertilizers for panicle growth constitute one-third. 4) Management should be early and the fields should be lightly dried. The field should be weeded 5 days after planting and water should be drained to dry the fields lightly. The per mu yield of early maturing er jiu qing planted in the high yielding experimental field of the Shaoxing Prefecture Agricultural Science Institute reached 940 jin.

III. The unit yield of "late triple cropping" early rice should be improved. 1) We should continue to popularize sparse sowing to cultivate strong seedlings and prevent overaging or underaging. Generally, the amount of sowing in seedling plots is 60 to 80 jin. One mu of seedbed can supply plants for 5 to 6 mu in the large fields. 2) We should expand two-stage cultivation of seedlings and the method of removing some seedlings and leaving some seedlings for cultivation, i.e., during the first stage, 250 to 300 jin of seeds can be sown per mu for dry cultivation to a seedling age of about 15 days. During the second stage, green manure fields can be used as temporary beds. The seedlings should be densely planted in the temporary beds with soil attached at 2 cun times 2 cun. Each bunch should have 2 to 3 plants. When transplanting, one plant is left and the rest are transplanted. The removed seedlings are planted in fields of late maturing winter crops, and the remaining seedlings will serve as seedbed seedlings. This method can produce high yields of late triple cropping early rice and provide fertilizers for early rice in the seedbeds, and it can increase the yield of food grains.

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## NEW EARLY RICE PLANTING TECHNIQUES DISCUSSED

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Zhang Yueqiang [1728 6390 1730] of the Changkou Supply and Marketing Cooperative in Fuyang County: "Food Grains Can Be Increased Without Spending More, We Only Have To Change the 'Square' Into 'Length' and 'North and South' Into 'East and West'"]

[Text] In recent years, some regions in our province have conducted a planting experiment to plant "wide rows and narrow plants" and "from east to west." Both of these methods realized welcomed results of increased yields. Jinhua Prefecture changed the original 5 x 5 (cun) or 5 x 4 (cun) square planting to 7 x 2.5 (cun) or 6 x 2.5 (cun) wide row and narrow plants. The average per mu yield of early rice reached 800 to 900 jin with the highest reaching more than 1,100 jin. Under the same measures of cultivation, the new arrangement produced an increased yield of 5 to 8 percent over square planting. They also conducted planting experiments in different directions using three different types of arrangements in dense planting. As a result, the average per mu yield of early rice in the "east and west rows" was 860 jin, an increase of 8.4 percent over the south and north rows.

The reason that "wide rows and narrow plants" and "east and west rows" produced increased yields was mainly due to an increase in aeration and light penetration. The leaf area increased more quickly, the microclimate in the field improved, the rate of utilization of light energy was increased, and the original "superiority of the side rows" of plants was more fully developed and utilized. According to foreign experiments, after wheat was planted in "east and west rows," it could produce over 20 jin more per mu than wheat planted in south and north rows. They believed this was due to the function of the earth's magnetic field. Experiments showed that root and bud of corn and wheat seeds will turn towards the south pole after being placed towards the north pole for a period. This is called geomagnetic polarization of the root system. Therefore, the root systems of most crops focus towards the south and extend towards the south. After crops are planted in east and west rows, their root system can extend, they can root and spread towards the south in the soil and become perpendicular to the planting rows. This increases the rate of utilization of the area of the soil compared to that of plants planted in north and south rows. The nutrients and moisture in the soil are fully utilized by the crops and the yield increases.

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# Atomic Energy

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TITLE: "Preliminary Report on Improvement of Restorer Lines in Hybrid Rice by Irradiation"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 2, 1982 pp 6-10

TEXT OF ENGLISH ABSTRACT: This paper presents the results of radiation-breeding of restorer lines in hybrid rice. The radiosensitivity of "Taiyin No 1" at various stages of development, the mutation frequency resulting from  $^{60}\text{Co}$   $\gamma$ -ray irradiation, and the inheritance and segregation of some characteristics of the early mutants have been studied. The restoring ability of early strains has also received preliminary study.

The experimental results indicate that  $\gamma$ -ray irradiation is an effective way of improving restorer lines in hybrid rice.

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TITLE: "Primary Study on the Control of Corn Borer by Pine Moth Trichogramma Labeled with  $^{32}\text{P}$ "

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 2, 1982 pp 31-36

TEXT OF ENGLISH ABSTRACT: The pine moth Trichogramma has been used to control the injurious insects in agriculture and forestry in China. The Trichogramma were released in an area of about 10 million mu. Good results were obtained. Now the pine moth Trichogramma is being used in the suburbs of Beijing. In the past 3 years it has been released in an area of about 1 million mu every year. The parasitic rate of the ovum of the corn borer was 70-80 percent.

[Continuation of YUANZINENG NONGYE YINGYONG No 2, 1982 pp 31-36]

In order to study the ability to scout for the host, the parasitic effect on the host and the competitive ability of the pine moth *Trichogramma* with the corn borer *Trichogramma* in the field, a syrup with  $^{32}\text{P}$   $25\mu\text{Ci/ml}$  was prepared to label the pine moth *Trichogramma* by feeding it directly. This treatment was not harmful to the insects. It was easy to discover the parasitic egg lump of the corn borer carrying radioactivity which could be measured with nuclear instruments and autoradiography. It has been proved that the pine moth *Trichogramma* in the field has a stronger ability of scouting for the host and a higher parasitic effect.

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CSO: 4011/161

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TITLE: "Problems of Soil and Water in the Basic Construction of Farming Fields"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 3-9

ABSTRACT: The basic construction of fields is a task involving utilizing as well as reforming nature. It is also the foundation of agricultural modernization. Its major aim is to realize comprehensive treatment of the mountain, the water, the field, the forest, and the road so as to construct fields of high and stable yield, to develop multiple operations, and to promote agricultural production. Through a lengthy discussion of the meaning of ecological systems and the relationship between basic construction of farm land and the ecological system of the farm land, the paper proceeds to explain that water and soil resources form the major considerations of such basic construction project. With regard to water, attention must be given to the interrelationship among the atmospheric water, the surface water, the soil water, and the ground water to treat the four as a unified entity for unified adjustment and arrangement. This is especially important in case of saline, alkaline lands and paddies. Regarding soil, the land should be made level, the layer of topsoil should be made thicker, organic fertilizer should be added, irrigation and drainage systems should be made convenient to operate, and a cropping system should be adopted to combine land utilization with land nurturing.

AUTHOR: XIE Xijian [6200 6932 0256]

ORG: Office of Agriculture and Forestry, Yichun Prefecture, Jiangxi Province

TITLE: "A Tentative Discussion on the Shift of Focalpoint of Basic Construction in the Paddy Rice Regions of the South"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 10-15

ABSTRACT: In the paddy rice regions of the South, after the problem of irrigation is basically resolved, the next major aim of farm land basic construction becomes the chief concern in the development of agriculture. For example, in the subtropical Yichun Prefecture, the condition of irrigation was poor in the 50's and farming depended upon rainfall in most of the areas while the harvest of the dry acreage was less than 1/4 of that of paddies. In the 70's, there are many irrigation stations and it is in a year of above normal rainfall when the yield of early rice crop suffers. The major concern has now been shifted to flood control to reconstruct waterlogged paddies by lowering the water table in order to obtain the optimal economic benefit from farm land basic construction investment. The goal of combining the engineering network of 20,000 reservoirs in these regions with 6,800 small hydroelectric power stations, a drainage system to coordinate with the existing irrigation facilities, and a cropping system of rice-rice-green manure is described as the focal point of current attention.

AUTHOR: None

ORG: Rural Work Department, Chinese Communist Party Anhui Provincial Committee

TITLE: "A Survey of the Economic Condition of the 10,000 Households in Anhui Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 16-20

ABSTRACT: For the purpose of mastering the actual condition of economic development in the rural villages of Anhui Province, the department spent close to 2 months last year to carry out a large scale survey of the 10,543 households of the 69 counties of the province. The survey includes the following items: (1) Production development: In 1981, the per capita grain production is found to be 1,153.19 jin, an increase of 30.62 percent; oil 67.64 jin, an increase of 76.65 percent; cotton 9.11 jin, an increase of 32.41 percent, with 0.96 pigs per household, an increase of 4.35 percent. (2) Net increase of income: In 1981, the per capita income is 364.22 yuan, an increase of 39.03 percent over that of 1980. After deductions of tax to the State, production costs, etc. the average net income of a commune member is 273.87 yuan, an increase of 46.2 percent. (3) Increased contribution: The sale to the State of grain is 258.87 jin per capita, an increase of 49.45 percent; oil 45.12 jin, an increase of 101.07 percent; cotton 8.14 jin, an increase of 36.58 percent, and 0.65 pigs per household, an increase of 1.56 percent. (4) Increased value of fixed assets: The

[continuation of NONGYE JINGJI WENTI No 5, 1982 pp 16-20]

value of fixed assets, including agricultural machinery, draft animals, large farm implements, and warehouses is 394.3 yuan per household, an increase of 43 percent, and 67.64 per capita, an increase of 41.48 percent. (5) Improved standard of living of farmers: In 1981, the grain consumption is 701.8 jin per capita, edible vegetable and animal oil 8.86 jin, an increase of 19.41 percent, meat, fish, poultry, and eggs 22.05 jin, an increase of 28.12 percent, sugar 2.85 jin, an increase of 21.28 percent, cloth 19.4 chi, an increase of 12.33 percent, housing 4.78 rooms, an increase of 14.08 percent, bicycle 0.23 per household, an increase of 35.29 percent, sewing machine 0.19 per household, an increase of 35.71 percent, radio 0.48 per household, an increase of 29.73 percent, watch 0.45 per household, an increase of 36.36 percent, savings 34.87 yuan per capita, an increase of 81.9 percent. Judging from the crop acreage, the grain acreage was 124 thousand mu in 1980 and 140,000 mu in 1981; the economic [cash] crop acreage was 22,150 mu in 1980 and 30,908 mu in 1981, amounting to increases of 12.9 and 39.5 percent respectively. Judging from the rate of development, the grain production was 467.9 million jin in 1980 and 634.6 million jin in 1981, an increase of 35.6 percent. The total income was 745.1 million yuan in 1980 and 1070 million yuan in 1981, an increase of 44.2 percent. The income from economic crops was 216.5 million yuan in 1980 and 373.1 million yuan in 1981, an increase of 72.3 percent. Condition of growth in family auxiliary industries is also reported.

AUTHOR: OUYANG Junbin [2962 7122 0193 2430]  
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QIU Kangyu [5941 1660 5038]

ORG: OUYANG of Henan Provincial Agricultural Committee; HE, QIU of Department of Agriculture, Henan Province

TITLE: "Analysis of the New Economic Combination System of Rural Villages"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 21-25

ABSTRACT: Following the implementation of the system of agricultural production responsibilities, a new type of socialist economic organizations has emerged. They are economic combination systems [associations] of various shapes and forms, including household with household, household with brigade, with some crossing over commune and prefecture barriers. As the great change occurred to rural economy in 1979, within the collectives, the error of egalitarianism is corrected and the production relationship adjusted to reinforce the autonomy of the collective as well as its members. The crop arrangement has been adjusted to develop multiple production. Rural auxiliary industries and market trading have been encouraged to result in the appearance of prosperity. Of the many forms of economic associations, the 3 major ones are: (1) Production associations to resolve problems of production materials, capital shortages, etc.; (2) Technological associations to engage in construction, paper-making, forestation etc. (3) Labor associations for transportation, processing agricultural by-products, etc.

AUTHOR: ZHENG Si [6774 1835]

ORG: Political Research Office, Hubei Provincial Committee

TITLE: "Fresh Water Fish-farming Should be Widely Developed in Hubei"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 47-51

ABSTRACT: Hubei has 1/10 of the nation's fresh water area capable of being used for fish culture. According to a 1980 statistical report, it has 13.33 million mu of water surface, of which 5.85 million mu are rivers. The remaining may all be used to raise fish to make the area the second largest in the nation, second only to Anhui. Since the liberation, fish production increased steadily for 10 years before it began to decline in 1960 as a result of the one-sided emphasis on grain production. The importance of fish culture was again brought to the attention of the leaders in 1980 and the production grew once again. Of the existing 7.48 million mu of fresh water surface, 4.13 million mu are being utilized at present, amounting to 55.2 percent. Compared with 1949, the water surface has been shrinking at an average rate of 290,000 mu a year, resulting from lakeshore encroachment to create new cropland. The constant discharge of large quantities of industrial waste far exceeding the self-cleansing capacity of the waters is another problem. Moreover, fish culture has also suffered from leftist policy errors and the frequent alterations of the system of administering the province's fish production have caused the ratio of the value of marine products in the agricultural economy to drop year after year.

AUTHOR: None

ORG: Special Editorial Writer of the Journal

TITLE: "[State-operated] Farms Should Handle Their Relationship With Commune-Brigades Well to March Forward Together"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 4-6

ABSTRACT: In the course of socialist construction, although the various sectors or departments do have common goals and identical interests, there may still be this and that contradiction in their interrelationship arising from their viewing a problem from different angles. This sort of contradiction belongs to the type of internal contradictions of the people and generally speaking they may be resolved through the method of solidarity-criticism-solidarity. Chairman Mao wrote specially on the subject and proposed theories and methods. We must continue to follow these proposals. The relationship between a State-operated farm and communes or brigades is a relationship among brothers. When they are neighbors seeing one another daily, problems are difficult to avoid. Such problems currently include 2 types: (1) Masses of a few commune-brigades go to a farm like a mob to take grain, rubber, and other crops; (2) Contradictions arising from day to day work. The first type is a crime against the law and should be punished as such. The second type should be resolved among themselves through mutual concern and negotiations.

[continuation of ZHONGGUO NONGKEN No 4, 1982 pp 4-6]

The distinction between the 2 types of problems does not appear to be clear-cut, if an incident told in the paper is any indication. The Xinguang Farm of Guangxi, a fruit-growing farm, experienced a tense relationship with a neighboring commune. The paper does not mention details of the dispute. In 1978, members of the commune decided to resolve the dispute by themselves. They cut down 3,000 mu of lemon trees, more than 1000 mu of bamboos, and stole the oranges. The farm brought the case to the court but before the court had time to hear one such case another had occurred. The leaders of the commune would not see those of the farm at first until finally the farm invited members of the commune to attend two meetings a year to discuss problems of mutual interest. A deputy-director of the farm was assigned the special job of visiting the commune to help the commune resolve its production and other problems. The problem between the farm and the commune was thus resolved and they felt very good about one another since then.



AUTHOR: SUN Panqi [1327 3140 2759]

ORG: None

TITLE: "Full and Effective Use of Agricultural Equipment Loans"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 8-9

ABSTRACT: At present, there are 3 major sources of capital for projects of agricultural and land reclamation construction: State appropriation, industrial surplus funds, and bank loans. The State has financial difficulties now and will be unable to increase agricultural investment for years to come. It appears that if the agricultural and land reclamation economy is to continue its steady development, it should find all sorts of ways to increase the capital accumulation within the industry on the one hand; on the other hand bank loans should be fully and effectively utilized. Some comrades have doubts about borrowing, however. They say that money for production construction should naturally come from the State. If the State gives the money we go ahead with the project; if there is no money there is no project. The paper argues that since the adoption of flexible economic policies, bank deposits have been growing very fast. In 1980, bank deposits amounted to 28.3 percent of the year's national income. From 1980 to 1982, short-term loans borrowed by State-operated farms for equipment from the agricultural banks came close to 6 hundred million yuan. Full and effective use of bank loans for agricultural development is urged by the author.

AUTHOR: None

ORG: Changjiang Agricultural, Industrial, and Commercial Joint Company, Chongqing City

TITLE: "Economic Association Promoted to Develop the Food Industry"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 13-14

ABSTRACT: In the 3 years since the establishment of the Changjiang Agricultural, Industrial, and Commercial Joint Company of Chongqing City, there have been new breakthroughs on the original foundation of the food industry. The value of products in 1980 was 13.23 million yuan and the profit was 2.06 million yuan. In 1981, the value of products was 20 million yuan, an increase of 51 percent; the profit was 3 million yuan, an increase of 46 percent. The major content of the joint company is to process and sell the agricultural and animal husbandry products produced by itself. It has established 15 food processing plants and machine shops emphasizing dairy products, canned goods, soft drinks, and tea. The food industry has in turn spurred the establishment of industries of paper boxes, paper bottle caps, plastic bottles, plastic bags, packaging paper, printed products, etc. The joint company owns, first of all, mountain lands, forests, fresh water areas, etc. Additionally, it forms economic associations with communes and brigades. Its raw material supplies are; therefore, plentiful and the cost is low. It needs very little capital for machinery for very fast returns. The quality of its products is good and the price is low; therefore it can withstand competition very well.

## Land Reclamation

AUTHOR: None

ORG: Bureau of Planning, Ministry of Agriculture and Land Reclamation

TITLE: "General Condition of Agricultural and Reclamation Production Construction in China in 1981"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 3-5

ABSTRACT: In 1981, the entire agricultural and reclamation system of China earnestly implemented the central party's policy of continued economic readjustment to promote the economic responsibility system. All over the country, aside from a yield reduction of grain and beans due to natural calamities, there were general yield increases of economic crops to produce agricultural-industrial products valued at 8.6 billion yuan, of which the value of agricultural products was 4.4 billion yuan and that of industrial products 4.2 billion yuan (based on the price level of 1970). A profit of 200+ million yuan was obtained. Among the agricultural products, the value of products of the farming system was 2.5 billion yuan, amounting to 56.2 percent; that of the forestry system 890 million yuan, amounting to 20 percent (in which 760 million yuan were from the rubber industry); the animal husbandry industry 610 million yuan, amounting to 13.9 percent; the auxiliary industry 420 million yuan, amounting to 9.5 percent; the fishery industry 20 million yuan, amounting to 0.4 percent. The acreage of grains and beans was 52.19 million mu and the products totaled 1,217,000 jin; the acreage was 2.7 percent less than that of the previous year and the total production reduction was 20 percent. The cotton acreage was 28.15 million mu

[continuation of ZHONGGUO NONGKEN No 5, 1982 pp 3-5]

and the total production was 2.22 million dan; the acreage was enlarged 14.7 percent and the production increased 25.4 percent. The acreage of oils was 3.73 million mu and the total production was 3,156,000 million dan. The acreage was enlarged 10.7 percent; the production increased 28.5 percent. The acreage of sugar was 1,058,000 mu and the production was 36.08 million dan. The acreage was enlarged 6 percent and the production increased 23.5 percent. The total sale of the agricultural and reclamation system in 1981 was 4.45 billion yuan, an increase of 5.5 percent over the previous year. The sale of grains and beans was 4.21 billion jin, a reduction of 31.2 percent. The sale of commercial grains and beans amounted to 34.5 percent, a reduction of 5.4 percent (in which 370 million jin were soybean). The sale of cotton was 1,983,000 jin; that of oils 2.32 million jin; that of meats 305 million jin amounting to an increase of 11.3 percent (in which the sale of commercial meats was 58 percent, same as that of the previous year). The exported products of the agricultural and reclamation system amounted to 506 million yuan, an increase of 10.9 percent over those of the previous year. The major exported products included 150,000 tons of soybean, 4,000 tons of rice, 308,000 pigs, and 14,000 head of cattle.



AUTHOR: WU Shengwei [0702 0524 0251]

ORG: None

TITLE: "Why Can the Guizhou Agricultural and Land Reclamation Enterprise Raise Its Economic Benefits in a Year of Great Natural Disaster?"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 15-16

ABSTRACT: In 1981, Guizhou Province suffered the severest drought in 60 years, but the 42 State-operated farms of the agricultural and land reclamation system reaped the greatest harvest in the 29 years since it was first established. Compared with 1980, the farms produced 25,000 dan tea leaves, an increase of 17.8 percent, 910 million jin of milk, an increase of 3.41 percent, 6,500 dan of oil materials, an increase of 66.79 percent, 780 thousand jin of pork, an increase of 2.63 percent. The total income was 21 million yuan, an increase of 20.3 percent over that of 1980. The paper credits the following for the great success in the midst of adversity: (1) Realistically adjusting the crop structure to take advantage of the natural condition of mountainous regions; (2) Eliminating the errors of egalitarianism and implementing various forms of production responsibility system; (3) Carrying out joint operation of agriculture, industry, and commerce to change the condition of producing raw materials only.

AUTHOR: None

ORG: The 850 Farm, Heilongjiang Province

TITLE: "Grain-Fertilizer Rotated Cropping System in the Eastern Part of Heilongjiang Province"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 19-20

ABSTRACT: Since the reclamation of the eastern part of Heilongjiang, an imbalance between land utilization and land nurturing has become a general problem due to insufficient supplement of organic matter. Beginning in 1963, an experiment has been carried out to study ways of rotating grain and green manure. After the wheat harvest, a crop of fast growing green manure is cultivated and turned over during the same year. The current system includes a 3 to 4 section rotation of corn, sorghum, millet, paddy rice, etc - soybean - wheat, being one crop a year planted in the spring and harvested in autumn. The growth and development period of wheat is short, however to leave 1.5-2 months of growing season before the first frost. This is enough time for a crop of rape or pea to produce 1,000 - 3,000 jin/mu of green manure, which are capable of growing until 16 Oct, one to two weeks after the first frost. The green manure crop should be turned over late Sep to early Oct, but if the soil moisture is good, it may be left to grow until the middle of Oct. In 1980, this system had been extended to 300,000 mu in the farm.

6248

CSO: 4011/131

Rice Cultivation

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TITLE: "Agronomical Expressions of Shuanggui No 1 and Its High Yield Cultivation Technique"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES]  
in Chinese No 3, 8 May 82 pp 1-4

ABSTRACT: Shuanggui No 1, same as Shuanggui-210, is a new paddy rice breed, bred out by Guangdong Provincial Academy of Agricultural Sciences' Research Institute of Rice through hybridization of Guiyangai C17 x Guichao No 2. For the purpose of clarifying its agronomical expressions and cultivation technique, the bureau carried out field tests, in cooperation with Fanyu County Institute of Agricultural Sciences, Conghua County Institute of Agricultural Sciences, Hua County Donggong Commune Agricultural Science Station, and Fanyu County Shidong Brigade Agricultural Science Station. Judging from observations of large acreages in a number of counties, communes, and brigades, the paper summarizes that as the early crop, the growth and development period is 140-165 days, i.e. 99-107 days after transplantation, as the late crop in the autumn, it is 112-126 days, i.e. 92-103 days after transplantation. Its spike development process, stem and leaf morphology, spike

[continuation of GUANGDONG NONGYE KEXUE No 3, 1982 pp 1-4]

and grain structure, and disease resistance are reported according to the survey data. The second half of the paper is devoted to discussions of its high yield cultivation technique, including the proper seeding time, suitably early transplanting, reasonable density of no more than 3-5 seedlings per hole, the principle of fertilizer application, and arrangements for its utilization as either the early or the late rice crop.

AUTHOR: LUO Jinling [5012 6855 6845]

ORG: Guangdong Provincial Weather Station

TITLE: "Classification of Annual Rainfall of the First High Water Stage and Its Relationship With Early Rice Production"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES]  
in Chinese No 3, 8 May 82 pp 11-13

ABSTRACT: Based upon the rainfall data of 1959-1980 of the station, the paper proceeds to explain that whether a particular place is suffering from flood calamity in a given month is determined by the total rainfall of that month in that place as well as the degree of concentration of rainfall in that month. When the former is represented by  $\frac{\Delta R}{R}$  and latter by  $\frac{\Delta r}{r} + 1$ , the sum of the two represents

the floodwater index of that month in that place. When the floodwater indices of Apr, May, and Jun of that year in that place are added together, the annual floodwater index for that year's first high water stage for that place is obtained. The annual floodwater index demonstrates the amount of rainfall, the condition of concentration, and the size of the affected area. The greater is the index the more serious is the condition of the rain. When the hours of sunlight is represented by  $\frac{\Delta S}{S}$ ,  $(\frac{\Delta R_2}{R_2} - \frac{\Delta S}{S})$  represents the year's index for the early rice crop.

As 70 percent of the yield of the early rice crop is formed after the heading-blooming stage, the yield and the index have a definite relationship. When the index is  $< 8$ , the possibility of yield increase is 73 percent; if it is  $> 8$ , the possibility of yield reduction is 71 percent.

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TITLE: "A Study on Rice Ragged Stunt in Guangdong Province"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES]  
in Chinese No 3, 8 May 82 pp 31-34

ABSTRACT: Rice ragged stunt was first reported in the Philippines in 1977. In China, it was first discovered in Fujian and Guangdong Provinces in 1978-79 and it was also reported in Jiangxi in 1980. According to surveys of affected fields, it is generally a scattered incidence but in serious cases, 90 percent of the rice plants may be diseased to cause a total loss of harvest for the paddy. The incidence, the symptom, the electromicroscopic observation, the disease-spreading characteristic of brown planthopper (*Nilaparvata lugens* (Stål)), the determination of disease resistance of major breeds, and the interrelationship between the virus and the vector are reported, on the basis of the survey data of Jul-Sep, 80 of various locations in Guangdong Province.

6248

CSO: 4011/152

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TITLE: "Studies on the Degeneration of Hybrid Rice"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 8-15

TEXT OF ENGLISH ABSTRACT: Samples of hybrid rice and its three lines obtained from Jianhu County, Jiangsu Province, and from several southern provinces were subjected to random sampling test and assessment of off-types during 1977-81. The pollen fertility of male sterile lines from different districts was checked, the combining ability of male sterile lines and restorers was estimated and the yield of hybrid rice from various districts and the productivities of single plants with different mixture ratios were compared. The experimental results showed that the deterioration of hybrid rice was mainly due to the mechanical mixture and biological contamination. No so-called degeneration of hybrid rice and its three lines could be found after factors conducive to mixture were eliminated. Thus, preventing mechanical mixture and biological contamination should be a critical measure for the rejuvenation of the hybrid rice.

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ORG: Cotton Research Institute, Chinese Academy of Agricultural Sciences, Anyang, Henan Province

TITLE: "Progress of Resistance Breeding to Fusarium Wilt and Verticillium Wilt of Cotton in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 16-22

TEXT OF ENGLISH ABSTRACT: Fusarium and Verticillium wilts detrimental to yield increase have become a great menace in the cotton growing areas in China. The area of infected cotton fields amounts to 19.4 percent. It is proven in practice in China and in other countries that adoption of disease-resistant varieties is the most beneficial measure. In the 31 years since the founding of the PRC, 47 varieties (or lines) in various types have been developed. The Fusarium resistant varieties undergoing the regional variety test for disease resistance and recommended for planting on a large scale are Shaanmian 401, 86-1, Shaanmian 4, Shaanmian 6, 5245 and Chuan 73-27. The Verticillium wilt resistant varieties recommended are Liaomian 5 and Zhongmian 9. The Fusarium and Verticillium wilt resistant variety released is Shaan 1155. The area under disease-resistant cotton in the whole country totals up to 6 million mu. Wilt in the seriously infected

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 1982 pp 16-22]

areas has been controlled, and cotton production is swinging a new direction. As a consequence, the loss of 1.5 million piculs of lint cotton every year is avoided.

Trials show that the Fusarium wilt resistant varieties developed in our country have strong resistance and a high consistency in yield are widely adapted. The resistance of the Verticillium wilt resistant varieties approximates that of the varieties used in other countries. Their productivity and lint quality improve yearly. The discrepancy between them and the conventional productive susceptible varieties of good qualities becomes less as time progresses. Rich experience is gained step by step, advances are made in the theory of cotton breeding, the ranks of cotton breeders are enlarged and constant improvement is made in the methods of cotton breeding. All these present a bright future for the third generation of disease resistant varieties which are marked for their resistance to both wilts and the acceptable combination of productivity and good lint quality.

AUTHOR: NIU Ruofeng [3662 5387 1496]  
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ORG: Both of the Institute of Agricultural Economics, Chinese Academy of Agricultural Sciences

TITLE: "Preliminary Study on the Evaluation of Economic Results in Agricultural Scientific Research"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 89-94

TEXT OF ENGLISH ABSTRACT: The authors hold that the contribution of agricultural scientific research to the growth of the national economy is measured according to the benefits it offers to the development of agriculture.

The economic results of agricultural scientific research should be evaluated from the point of view of their optimum service to socioeconomic development. They reflect the proportionate relationship between labor consumed and effective output as well as the incremental relationship between the economic results of the new research and those of the previous ones.

The authors propose an economic critical boundary for extension and the use of the research achievement indicators of the economic effects and methods of calculation.

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 1982 pp 89-94]

They suggest that: The increase of social gross production of agricultural products, the net income increment, the research returns as well as the functional share of agricultural sciences and techniques should all be considered in the total increment of agricultural productivity and in its growth rate. The direct economic results of a new variety of cotton, "Lu-Mian No 1," are estimated.

9717

CSO: 4011/158

AUTHOR: ZHANG Baoyuan [1728 1405 0337]

ORG: None

TITLE: "The Technological Characteristic of Weather Station Forecasting and Its Reform and Improvement"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 3, 10 Mar 82 pp 35-36

ABSTRACT: The characteristic of the forecasting technique of China's county weather stations is to combine weather chart, the data of the continuously evolving meteorological factors, and the weather forecasting experience accumulated by local weather forecasters and masses. The author affirms the correctness of this technique and believes that if it is seriously carried out the level of forecasting by the county weather stations may be improved. The author also suggests that in order to improve the forecasting technique of the county stations, it is necessary to develop radiophotography, cloud observation, comprehensive analysis, historical probability, personnel training, and a balance between new and old techniques in every county weather station.

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CSO: 4011/171

END